ORDER NO.CHM0604019CE

Service Manual

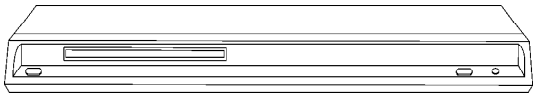
DVD Player

DVD-S1E / DVD-S1EB / DVD-S1EG

DL4.5 Mechanism Series

Color

(S).....Silver Type



SPECIFICATIONS

Specifications

Power supply:	AC230-240 V, 50 Hz (DVD-S1EB) AC230 V, 50 Hz (DVD-S1E/EG)
Power consumption:	10 W
Power consumption in standby mode:	approx. 1 W
Dimensions:	360 (W) × 251 (D) × 43 (H) mm
Mass:	1.8 kg (approx.)
Signal system:	PAL 625/50, PAL 525/60, NTSC
Operating temperature range:	+ 5 to + 35 °C
Operating humidity range:	5 to 90 % RH (no condensation)

Discs played [8 cm (3 ”) or 12 cm (5 ”)]:

(1) DVD (DVD-Video)
(2) DVD-R (DVD-Video, MP3*2,4, JPEG*3,4)
(3) DVD-RW (DVD-Video, MP3*2,4, JPEG*3,4)
(4) +R/+RW (Video)
(5) CD, CD-R / CD-RW (CD-DA, Video CD, SVCD*1, MP3*2,4, JPEG*3,4)
(6) DVD-R DL (DVD-Video)
(7) +R DL (Video)

*1 Conforming to IEC62107
*2 MPEG-1 Layer 3, MPEG-2 Layer 3
*3 Exif Ver2.1 JPEG Baseline files
Picture resolution: between 320 × 240 and 6144 × 4096 pixels (Sub sampling is 4:2:2 or 4:2:0)

*4 The total combined maximum number of recognizable audio and picture contents and groups: 1000 audio and picture contents and 256 groups.

Video output:	
Output level:	1 Vp-p (75 Ω)
Output terminal:	Pin jack (1 system)/AV
S video output:	
Y output level:	1 Vp-p (75 Ω)
C output level:	NTSC: 0.286 Vp-p (75 Ω) PAL: 0.300 Vp-p (75 Ω)
Output terminal:	AV
Component video output:	[NTSC: 525(480)p/525(480)i, PAL: 625(576)p/625(576)i]
Y output level:	1 Vp-p (75 Ω)
P B output level:	0.7 Vp-p (75 Ω)
P R output level:	0.7 Vp-p (75 Ω)
Output terminal:	Pin jack (Y: green, P B : blue, P R : red)
Number of terminals:	1 system
RGB video output:	
R output level:	0.7 Vp-p (75 Ω)
G output level:	0.7 Vp-p (75 Ω)
B output level:	0.7 Vp-p (75 Ω)
Output terminal:	AV
Video performance:	
Horizontal resolution:	More than 500 lines
Video S/N ratio:	More than 65dB
Audio output:	
Output level:	2 Vrms (1 kHz, 0 dB)
Output terminal:	Pin jack/AV
Number of terminals:	
2 channel:	1 system
Audio performance:	
(1) Frequency response:	
● DVD (linear audio):	4 Hz-22 kHz (48 kHz sampling) 4 Hz-44 kHz (96 kHz sampling)
● CD audio:	4 Hz-20 kHz
(2) S / N ratio:	
● CD audio:	115 dB
(3) Dynamic range:	
● DVD (linear audio):	92 dB
● CD audio:	90 dB
(4) Total harmonic distortion:	
● CD audio:	0.003 %
Digital audio output:	
Coaxial digital output:	Pin jack
Pickup	
Wave length:	653 nm / 790 nm

Laser power: **CLASS 1 / CLASS 3A**

Note:

Specifications are subject to change without notice.

Mass and dimensions are approximate.

Solder:

This model uses lead free solder (PbF).

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

1. SAFETY PRECAUTIONS

1.1. GENERAL GUIDELINES

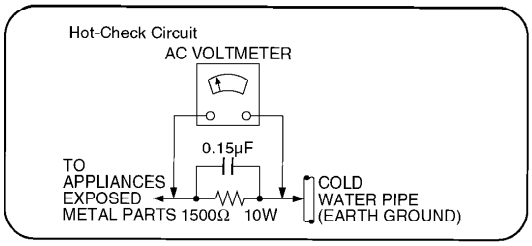
1. **When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.**
2. **After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.**
3. **After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.**

1.1.1. LEAKAGE CURRENT COLD CHECK

1. **Unplug the AC cord and connect a jumper between the two prongs on the plug.**
2. **Measure the resistance value, with an ohmmeter, between the**

jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1M Ω and 5.2M Ω . / When the exposed metal does not have a return path to the chassis, the reading must be ∞.

Figure 1



1.1.2. LEAKAGE CURRENT HOT CHECK (See Figure 1 .)

1. **Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.**
2. **Connect a 1.5k Ω , 10 watts resistor, in parallel with a 0.15 µ F capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.**
3. **Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.**
4. **Check each exposed metallic part, and measure the voltage at each point.**
5. **Reverse the AC plug in the AC outlet and repeat each of the above measurements.**
6. **The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.**

2. PREVENTION OF ELECTRO STATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistorsand semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. **Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.**
2. **After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as alminum foil, to prevent electrostatic charge buildup or exposure of the assembly.**
3. **Use only a grounded-tip soldering iron to solder or unsolder ES devices.**
4. **Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.**
5. **Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.**
6. **Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, alminum foil or comparable conductive material).**
7. **Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.**

   Caution

   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. **Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise hamless motion such as the brushing**

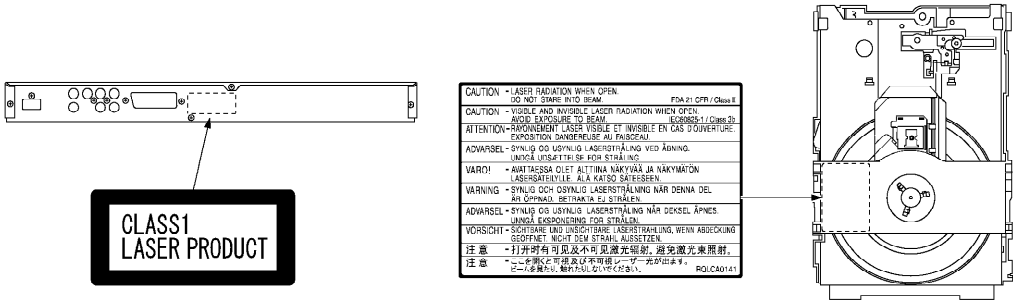
together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient todamage an ES device).

3. PRECAUTION OF LASER DIODE

CAUTION:

This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.
Wave length: 653 nm/790 nm
Maximum output radiation power from pickup: 100 μ W/VDE
Laser radiation from the pickup lens is safety level,but be sure the followings:

1. Do not disassemble the optical pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pickup lens for a long time.



CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

4. SERVICE CAUTION BASED ON LEGAL RESTRICTIONS

4.1. General description about Lead Free Solder (PbF)

The lead free solder has been used in the mounting process of all electrical components on the printed circuit boards used for this equipment in considering the globally environmental conservation.
The normal solder is the alloy of tin (Sn) and lead (Pb). On the other hand, the lead free solder is the alloy mainly consists of tin (Sn), silver (Ag) and Copper (Cu), and the melting point of the lead free solder is higher approx.30°C (86°F) more than that of the normal solder.

Definition of PCB Lead Free Solder being used

The letter of "PbF" is printed either foil side or components side on the PCB using the lead free solder. (See right figure)	PbF

Service caution for repair work using Lead Free Solder (PbF)

- The lead free solder has to be used when repairing the equipment for which the lead free solder is used. (Definition: The letter of “PbF” is printed on the PCB using the lead free solder.)
- To put lead free solder, it should be well molten and mixed with the original lead free solder.
- Remove the remaining lead free solder on the PCB cleanly for soldering of the new IC.
- Since the melting point of the lead free solder is higher than that of the normal lead solder, it takes the longer time to melt the lead free solder.
- Use the soldering iron (more than 70W) equipped with the temperature control after setting the temperature at 350±30°C (662 ±86°F).

Recommended Lead Free Solder (Service Parts Route.)
The following 3 types of lead free solder are available through the service parts route.

- RFKZ03D01K----------(0.3mm 100g Reel)
- RFKZ06D01K----------(0.6mm 100g Reel)
- RFKZ10D01K----------(1.0mm 100g Reel)

Note

* Ingredient: tin (Sn) 96.5%, silver (Ag) 3.0%, Copper (Cu) 0.5%, Cobalt (Co) / Germanium (Ge) 0.1 to 0.3%

5. PREVENTION OF STATIC ELECTRICITY DISCHARGE

The laser diode in the traverse unit (optical pickup) may brake down due to static electricity of clothes or human body. Use due caution to electrostatic breakdown when servicing and handling the laser diode.

5.1. Grounding for electrostatic breakdown prevention

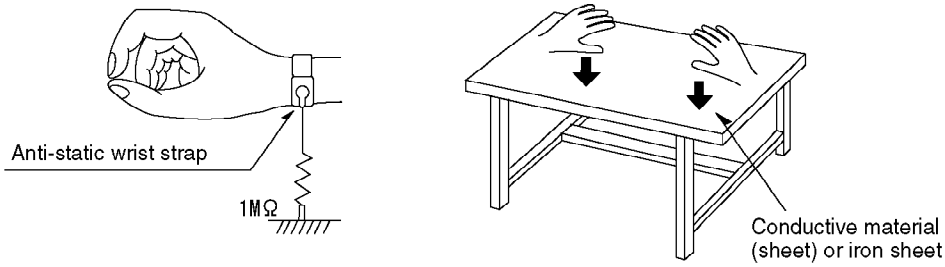
Some devices such as the DVD player use the optical pickup (laser diode) and the optical pickup will be damaged by static electricity in the working environment. Proceed servicing works under the working environment where grounding works is completed.

5.1.1. Worktable grounding

1. Put a conductive material (sheet) or iron sheet on the area where the optical pickup is placed, and ground the sheet.

5.1.2. Human body grounding

1. **Use the anti-static wrist strap to discharge the static electricity form your body.**



5.1.3. Handling of optical pickup

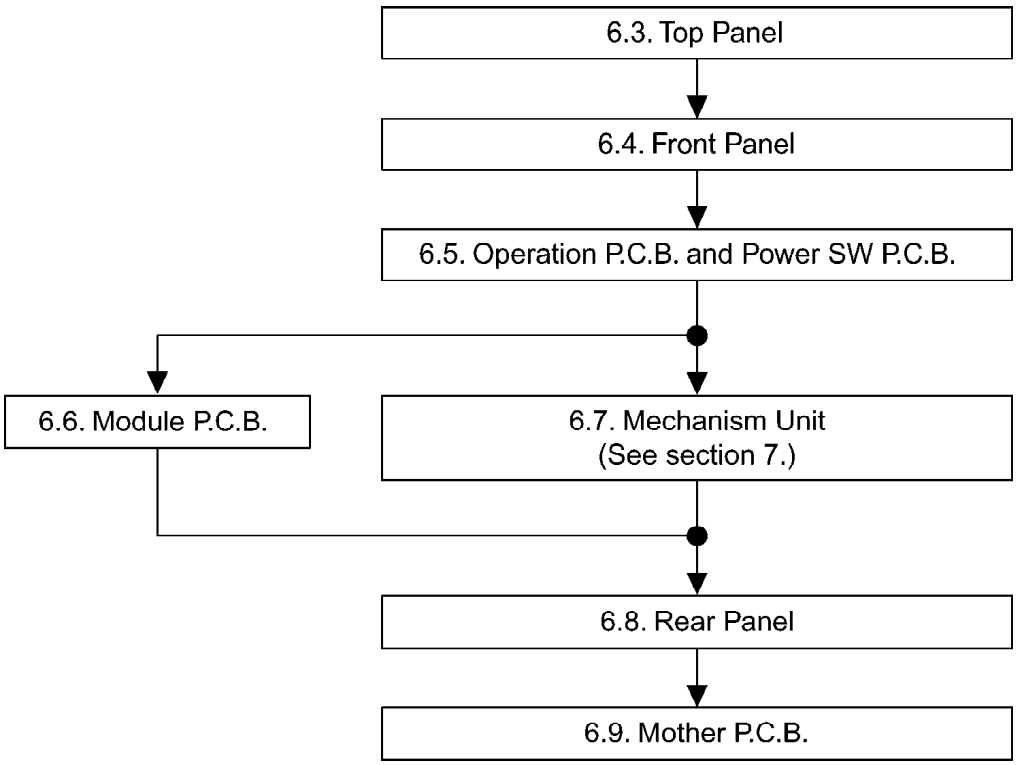
1. **To keep the good quality of the optical pickup maintenance parts during transportation and before installation, the both ends of the laser diode are short-circuited. After replacing the parts with new ones, remove the short circuit according to the correct procedure. (See this Technical Guide.)**
2. **Do not use a tester to check the laser diode for the optical pickup. Failure to do so will damage the laser diode due to the power supply in the tester.**

5.2. Handling Precautions for Traverse Unit (Optical Pickup)

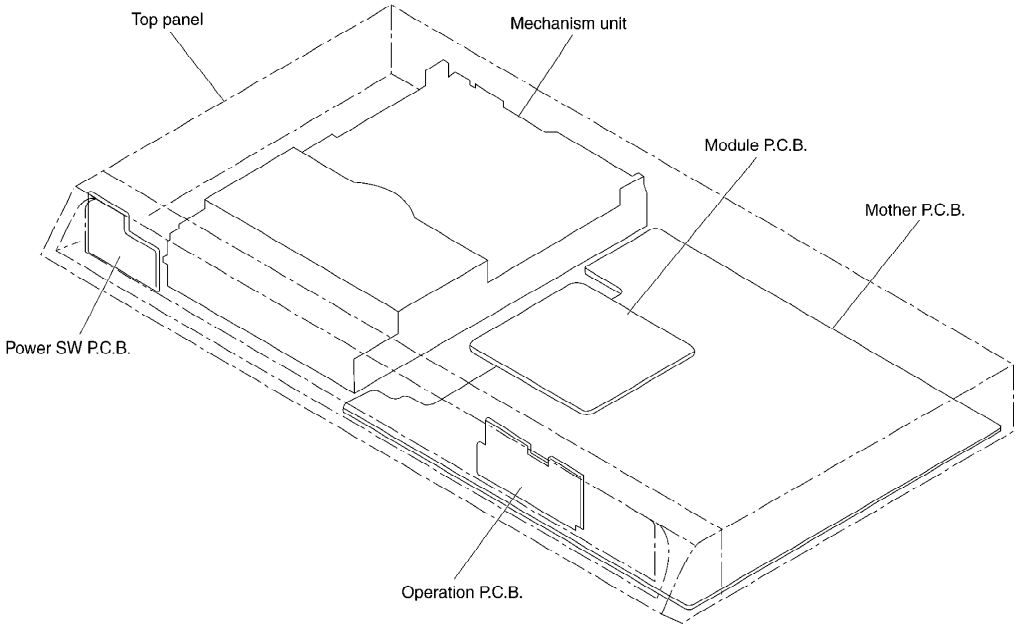
1. **Do not give a considerable shock to the traverse unit (optical pickup) as it has an extremely high-precise structure.**
2. **When replacing the optical pickup, install the flexible cable and cut its short land with a nipper. See the optical pickup replacement procedure in this Technical Guide. Before replacing the traverse unit, remove the short pin for preventing static electricity and install a new unit. Connect the connector as short times as possible.**
3. **The flexible cable may be cut off if an excessive force is applied to it. Use caution when handling the cable.**
4. **The half-fixed resistor for laser power adjustment cannot be adjusted. Do not turn the resistor.**

6. DISASSEMBLING THE CASING AND CHECKING P.C.B.S

6.1. Disassembly Procedure

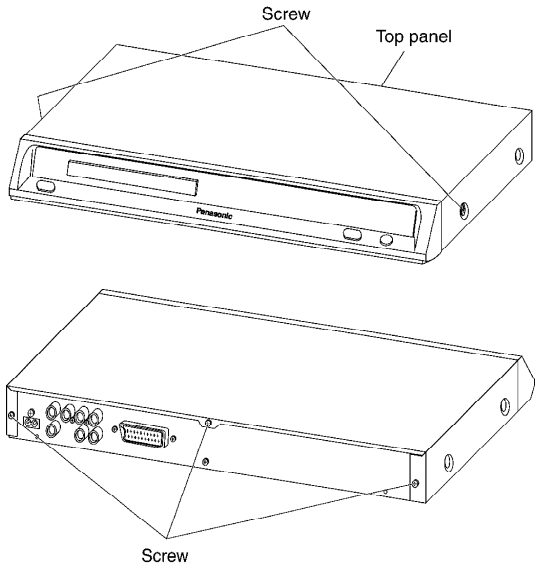


6.2. Casing Parts and P.C.B. Positions



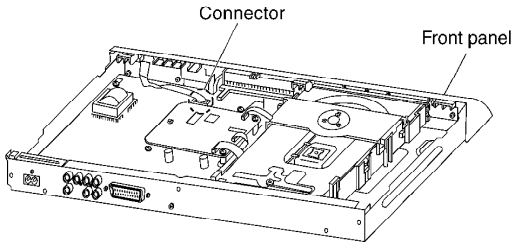
6.3. Top Panel

1. Unscrew the screws.

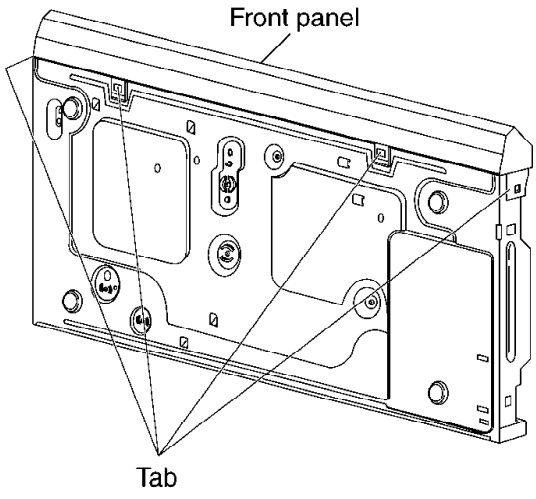


6.4. Front Panel

1. Release the connector.

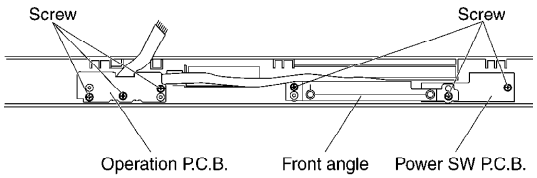


2. Release the tabs.



6.5. Front angle and Operation P.C.B. and Power SW P.C.B.

1. Unscrew the screws.

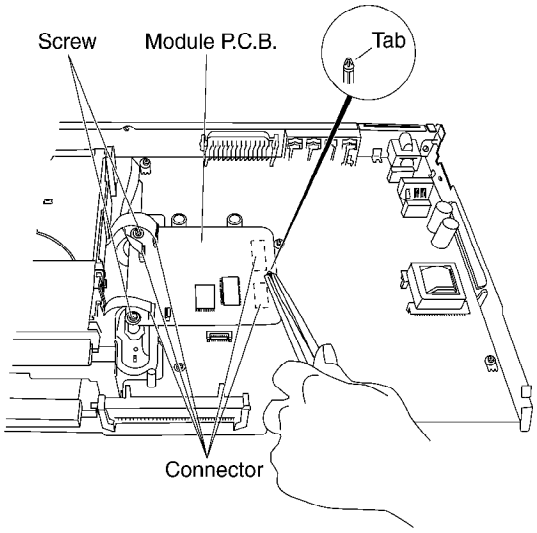


6.6. Module P.C.B.

1. Remove the connectors.

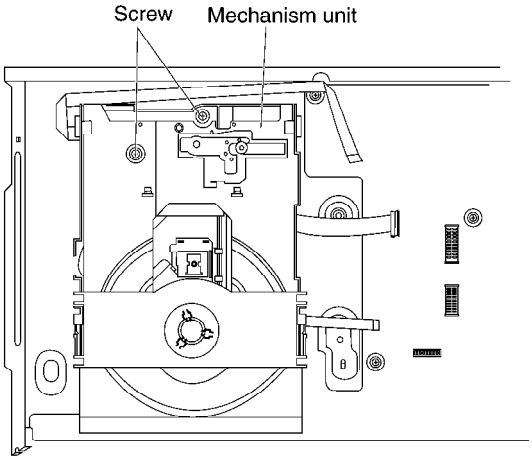
2. Unscrew the screws.

3. Press each tab with the nipper to module P.C.B. vertically.

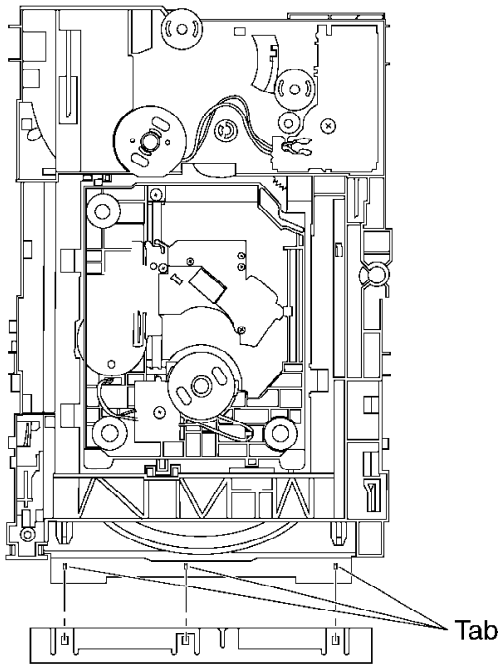


6.7. Mechanism Unit

1. Unscrew the screws.



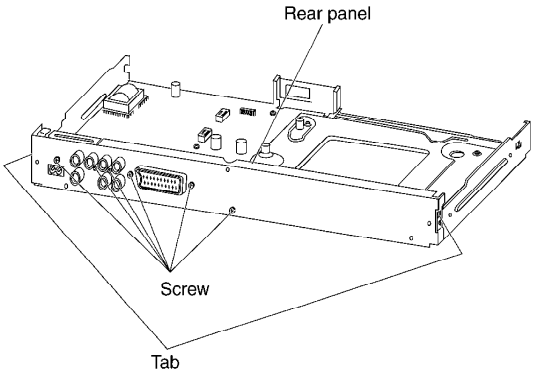
2. Release the tabs.



6.8. Rear panel

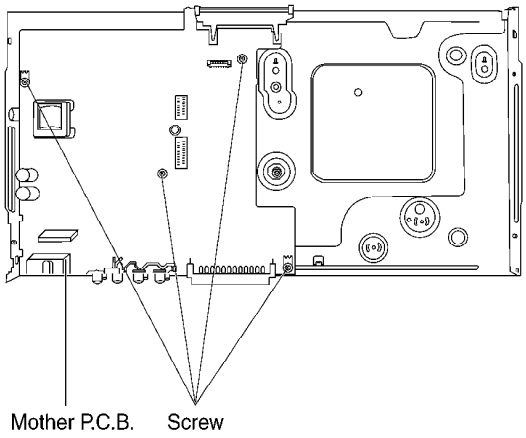
1. Unscrew the screws.

2. Release the tabs.



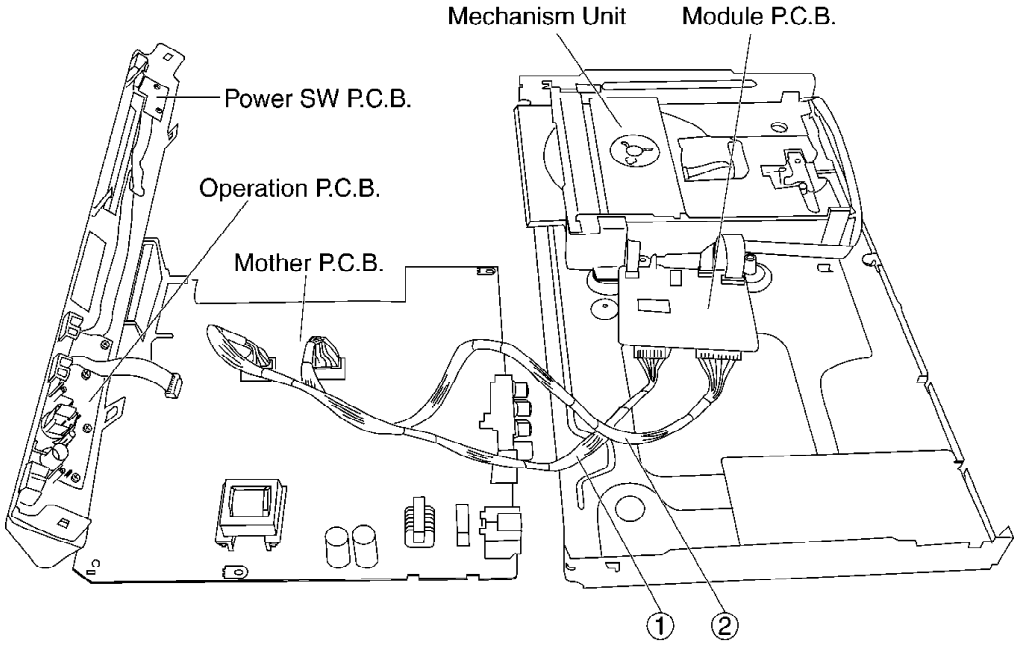
6.9. Mother P.C.B.

1. Unscrew the screws.

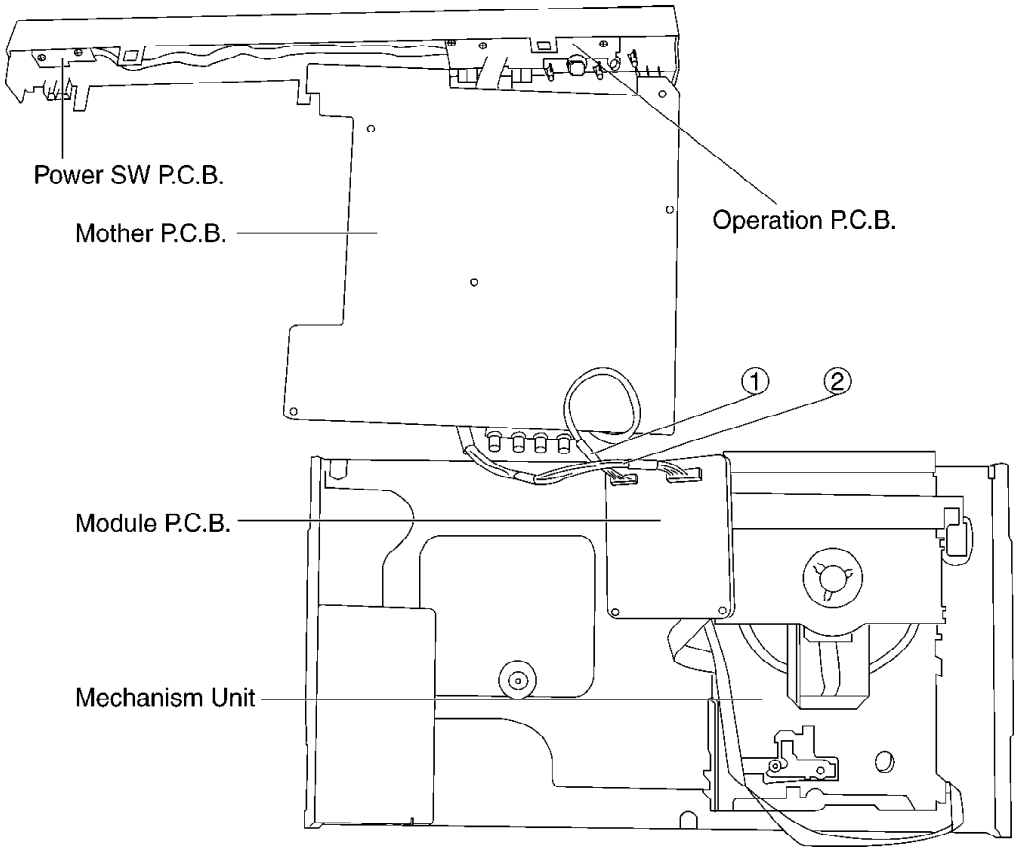


6.10. Service Position

6.10.1. Servicing position of the Module P.C.B.



6.10.2. Servicing position of the Mother P.C.B.

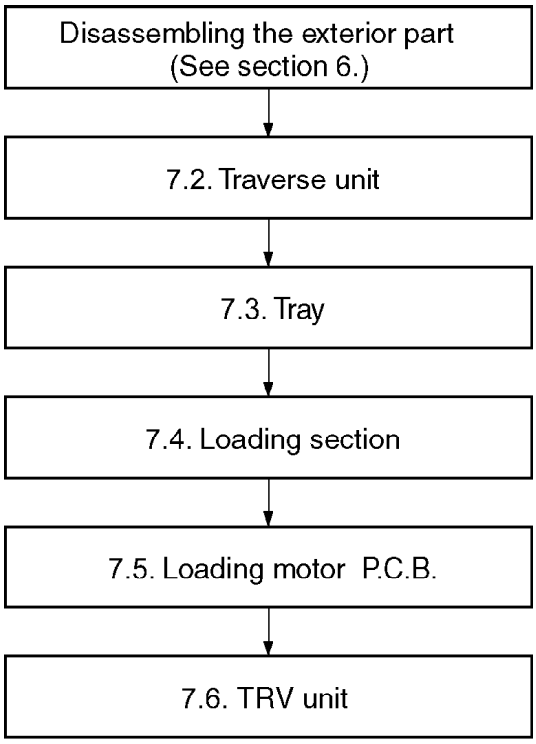


6.10.3. List of the Extension Cables

①	VUC8026	14pins	PS8101(Module P.C.B.) — FP3501(Mother P.C.B.)
②	RFKZ0106	20pins	PS8301(Module P.C.B.) — FP3502(Mother P.C.B.)

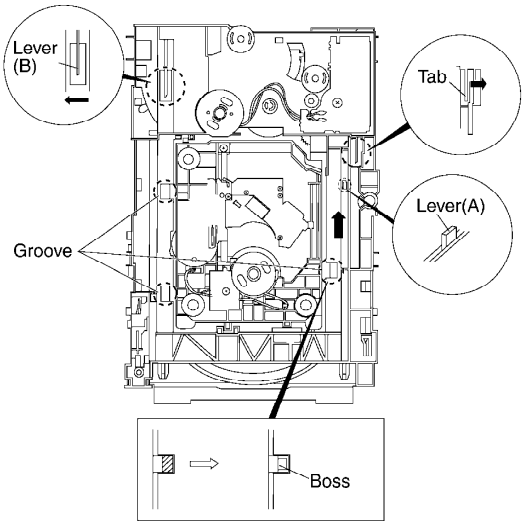
7. ASSEMBLING AND DISASSEMBLING THE MECHANISM UNIT

7.1. Disassembly Procedure

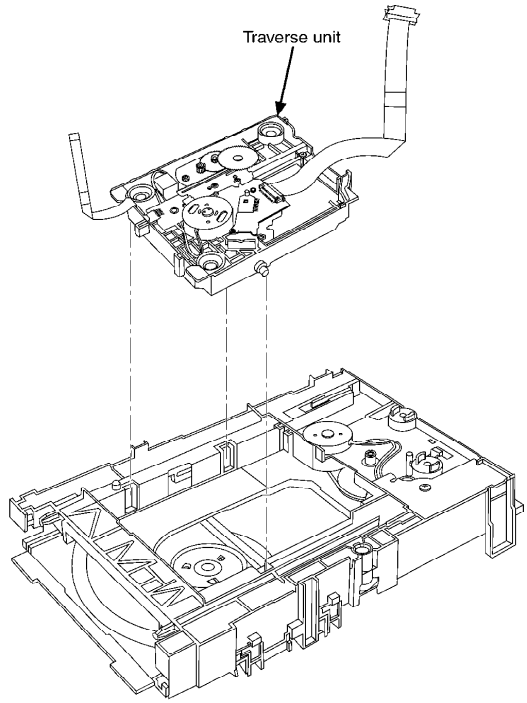


7.2. Traverse Unit

1. **Slide the lever (A) in the arrow direction (to the opposite side) till it stops.**
2. **Slide the lever (A) further by bending the tab at the right side of the lever A in the right direction. (The right groove opens and the boss becomes seen.)**
3. **Open the lever (B) to left. (The 2 grooves at the left side open.)**

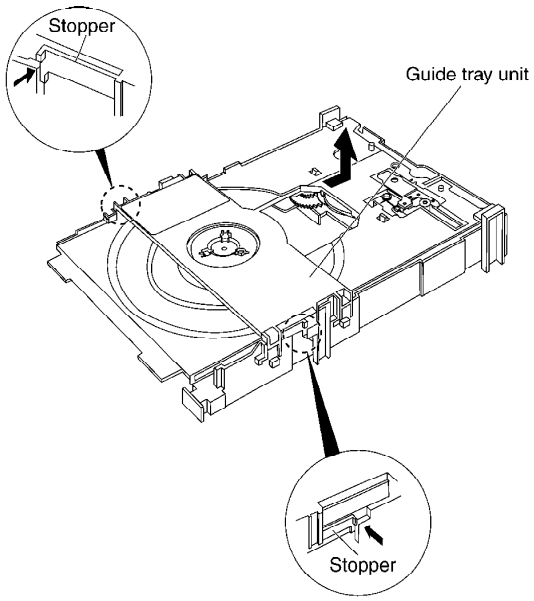


4. **Remove the traverse unit.**

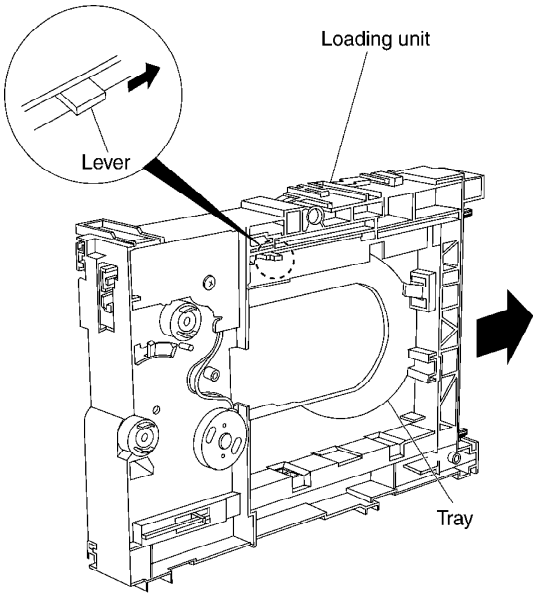


7.3. Tray

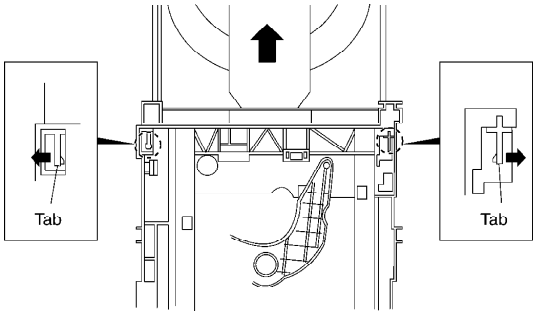
1. **Slide the guide tray unit while pressing the stopper in the arrow direction, and remove the guide tray unit.**



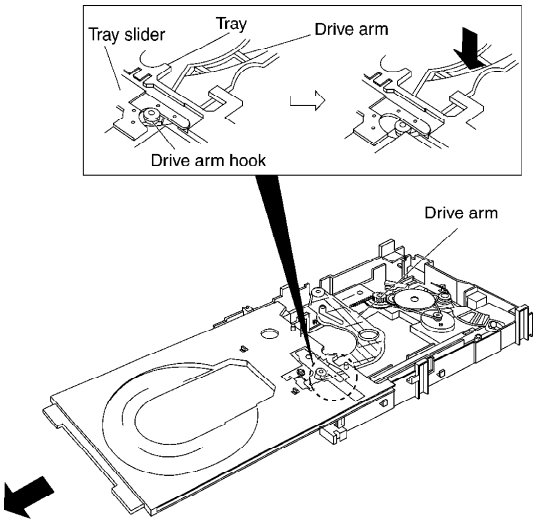
2. **Raise the loading unit.**
3. **Slide the lever in the arrow direction till it stops and pull the tray out.**



4. Spread the tabs at the both sides and pull the tray out. (The tray slides a little forward and stops.)



5. Remove the drive arm concave phase from the tray slider and tray.

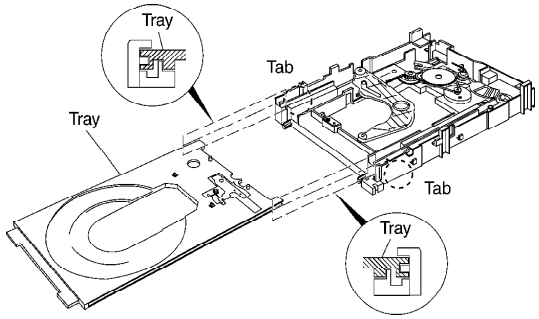


<Assembling the tray unit>

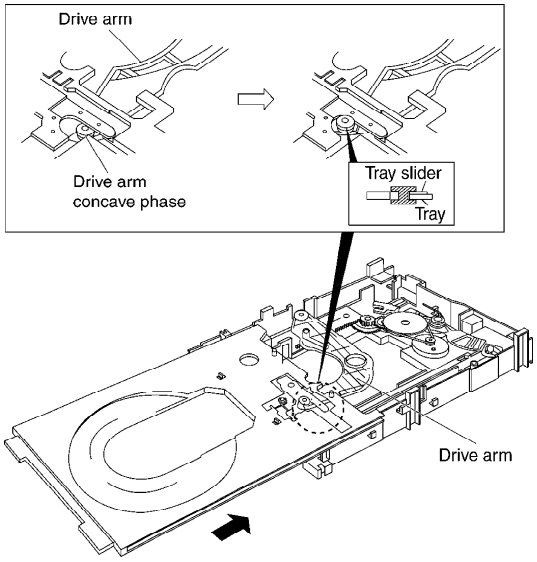
1. Insert a part of the tray into the unit sliding over the groove on the

mechanical chassis unit.

2. **Insert the tray to the point before the tab of the mechanical chassis unit.**

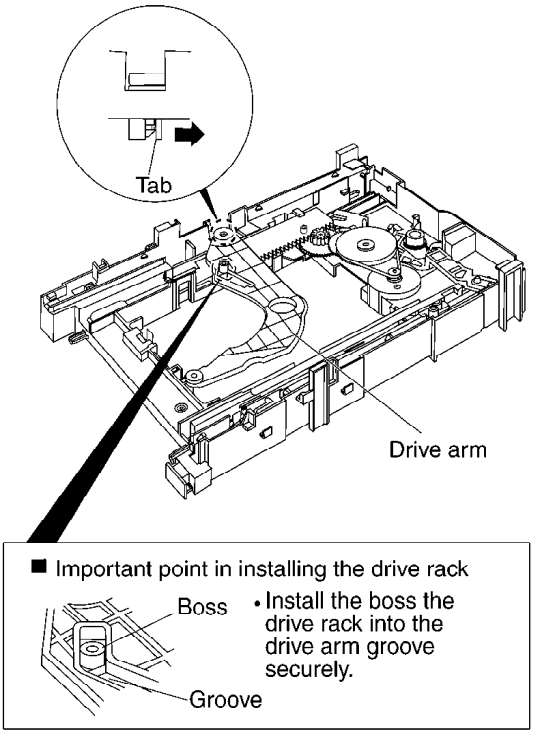


3. **Hook the drive arm concave phase over the tray and the tray slider.**
4. **Press in the tray.**
5. **Make sure that the tray and the drive arm move smoothly.**



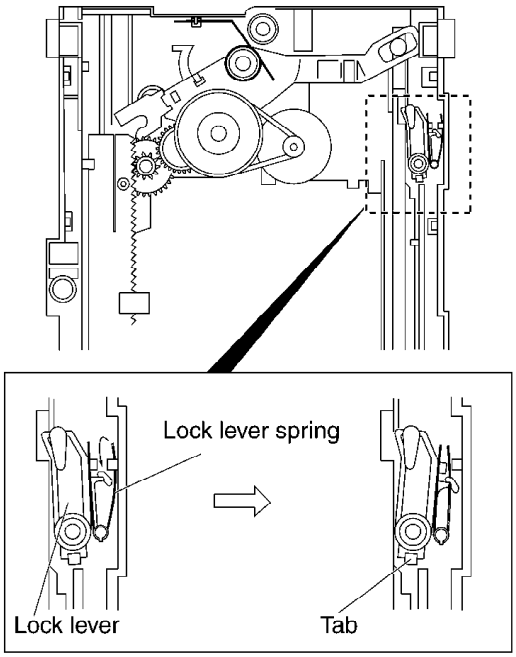
7.4. Loading section

1. **Spread the tabs at the both sides and push out the drive arm shaft.**



2. Hook the lock lever spring on the lock lever projection part temporarily.

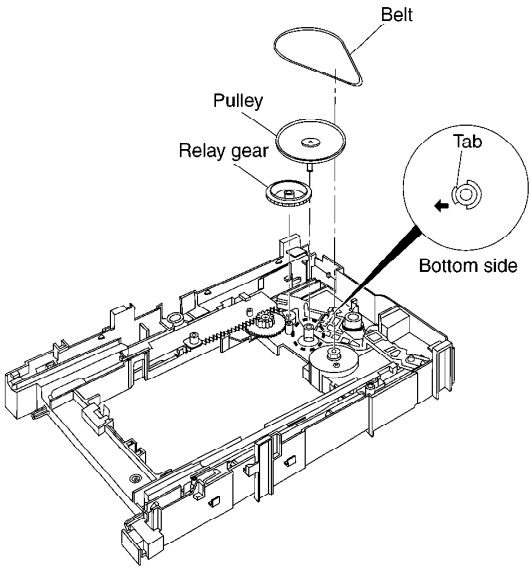
3. Unlock the tab and remove the lock lever.



4. Remove the belt.

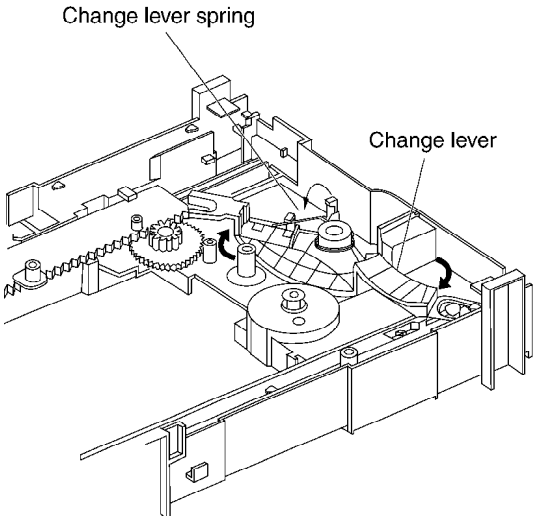
5. Unlock the tab and remove the pulley.

6. Remove the relay gear.

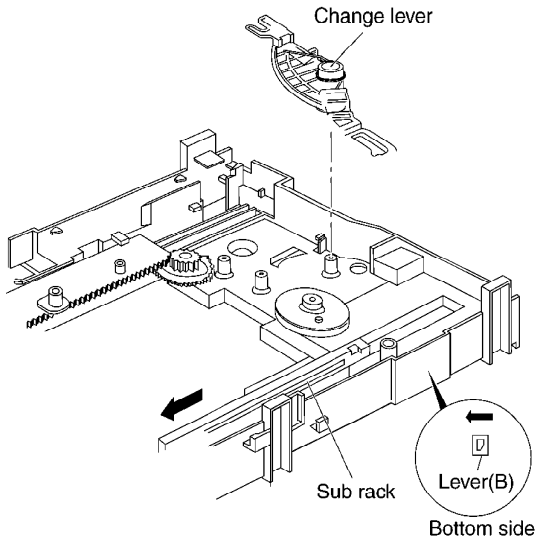


7. Turn the change lever in the arrow direction till it stops.

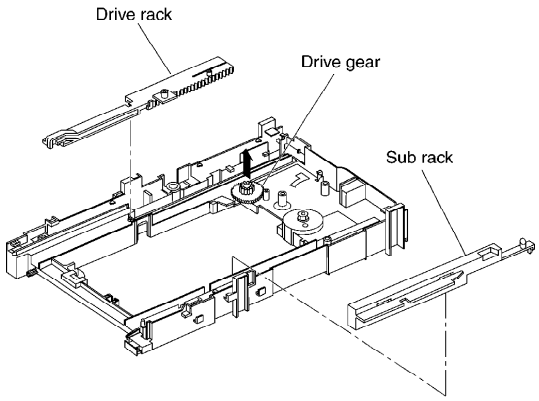
8. Hook the change lever spring on the change lever project part temporarily.



9. Pull the lever (B) in the bottom side to your side and remove the change lever.

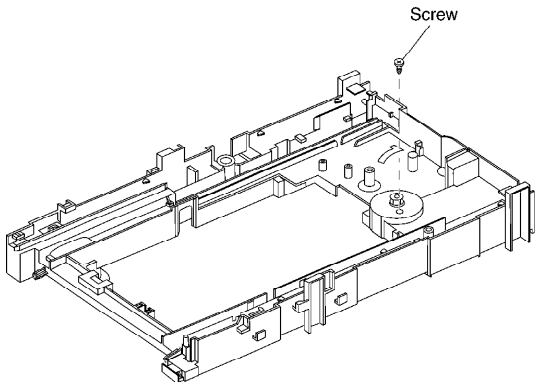


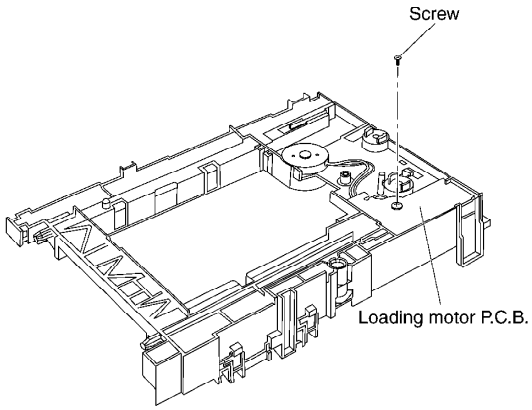
10. Remove the drive rack, the sub rack and the drive gear.



7.5. Loading motor P.C.B.

1. Unscrew the screws.



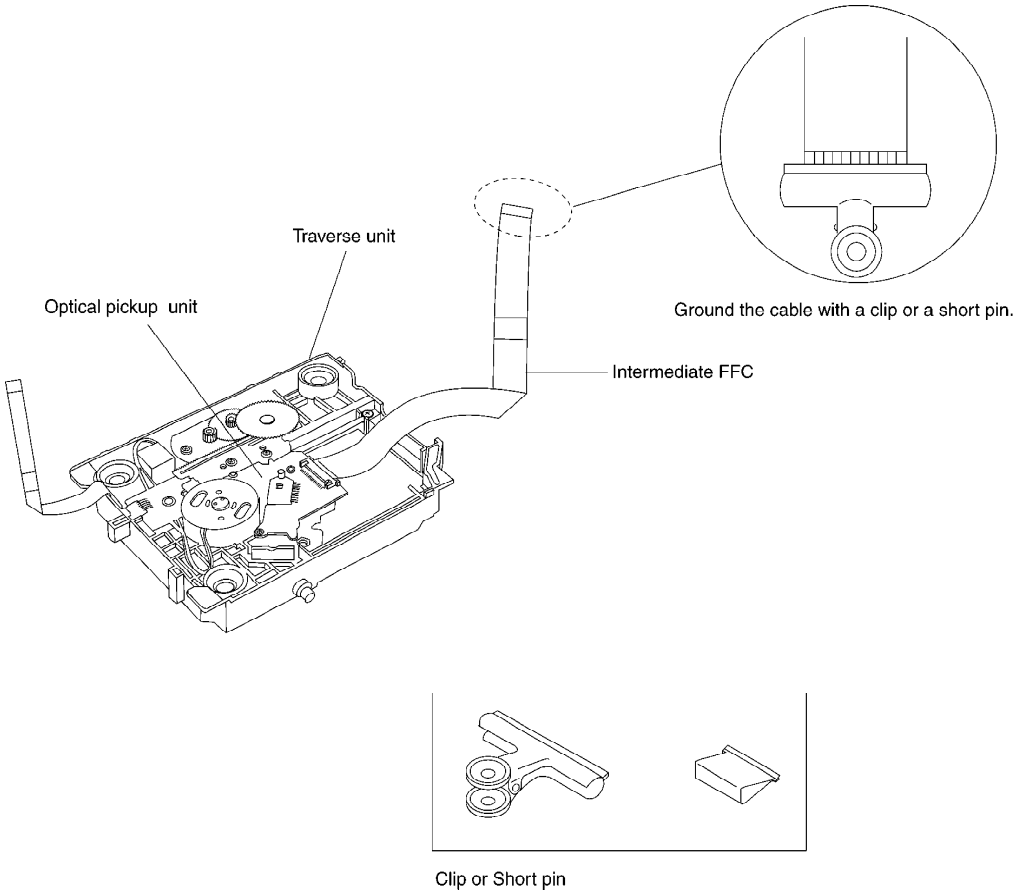


7.6. TRV Unit

7.6.1. Cautions to Be Taken in Handling the TRV Unit

The laser diode in the TRV unit may be damaged due to electrostatic discharge generating from clothes or human body. Use due caution to electrostatic discharge damage when servicing the laser diode.

1. **Do not give a considerable shock to the TRV unit as it has an extremely high-precise structure.**
2. **To prevent the laser diode from the electrostatic discharge damage, the Intermediate FFC of the TRV unit removed from the PCB should be short-circuited with a short pin or a clip.**
3. **The Intermediate FFC may be cut off if an excessive force is applied to it. Use caution when handling the Intermediate FFC.**



7.6.2. Procedure for Disassembling the TRV Unit

Notice

1. **This section aims to focus on the disassembling methods of some parts in the case that no damage is occurred to optical pickup units.**
2. **When the optical pickup unit is defective, the overall traverse unit needs replacement.**
3. **Please note that appropriate actions needs to be taken to prevent static damage.**

Caution

Insert the short pin into the FFC of the optical pickup unit. (See “Caution to be taken in handling the TRV Unit”)

1. **Before changing 22P FFC, please weld the short-circuit solder. (refer to Fig. A)**

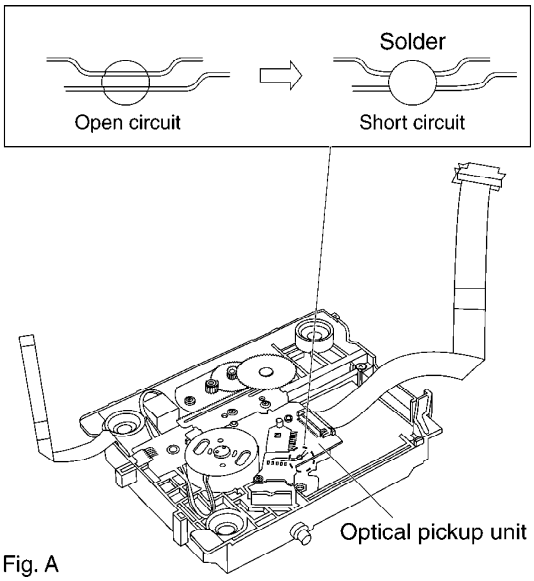
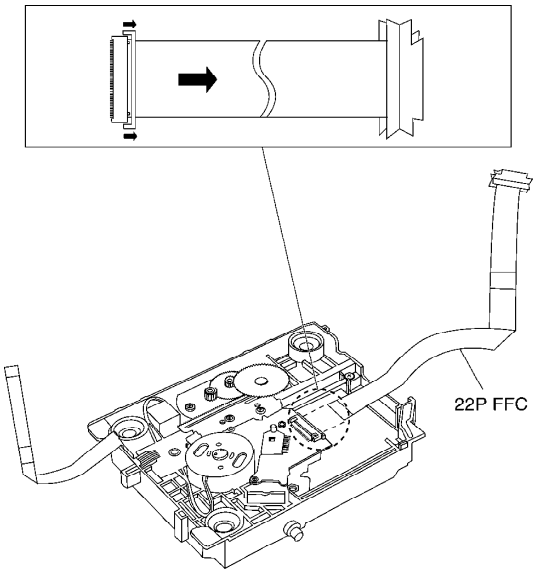


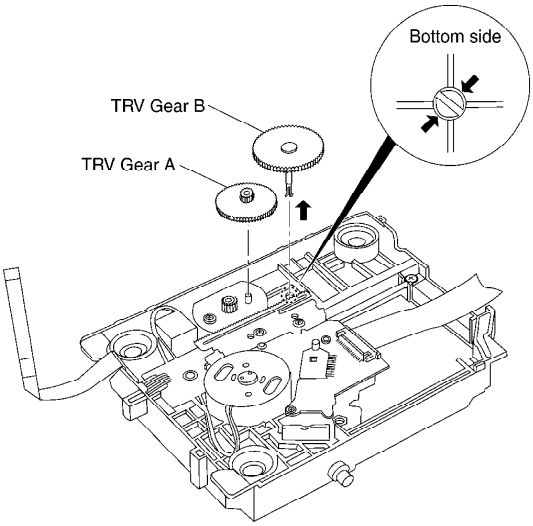
Fig. A

2. Remove the connecter, take out the 22P FFC.



After changing the 22P FFC, please remove the solder. (refer to Fig. B)

3. Push the tabs on the back and remove the TRV Gear B and A.

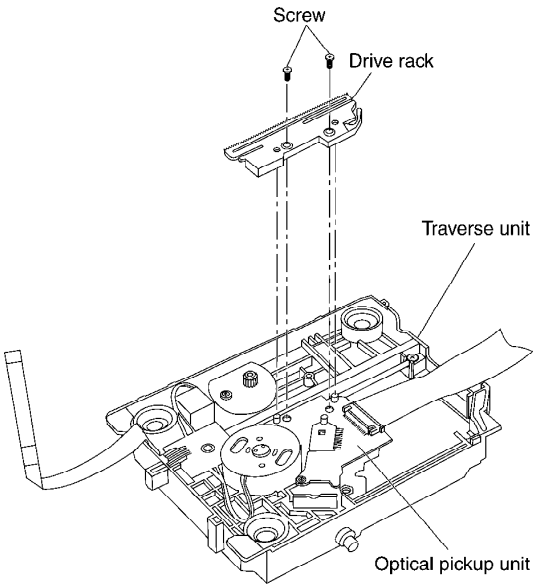


4. Unscrew the screws.

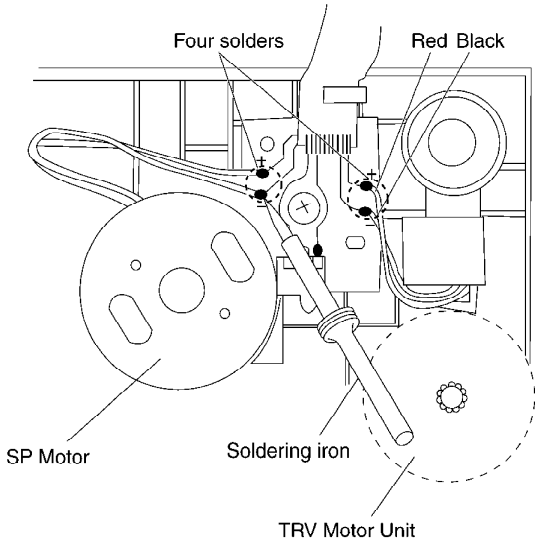
5. Remove the drive rack.

Caution

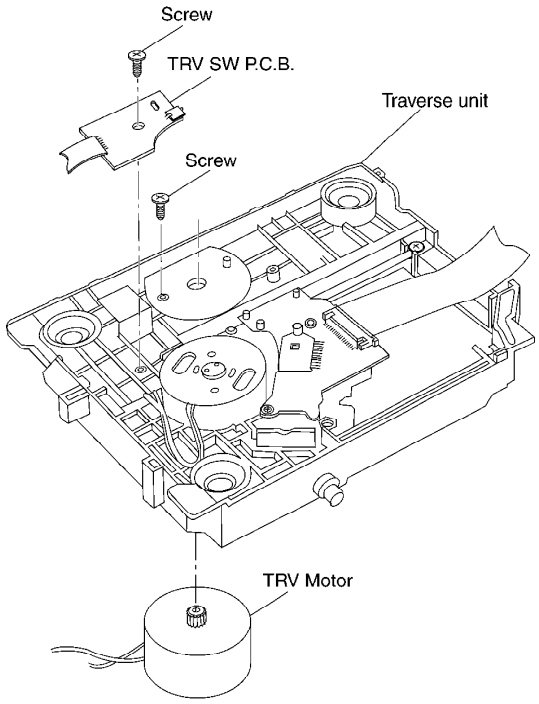
Do not dissemble drive rack fixing screws repeatly, otherwise the screws may hard to tighten and affect the accuracy of optical pickups consequently.



6. Remove the solders of the SP motor and the TRV motor.



7. Unscrew the screws, then remove the TRV Motor and TRV SW P.C.B. Unit.



<Assembling the TRV unit>

1. After replacing the TRV Unit and connecting the 22P FFC, remove the solder on the optical pickup unit.

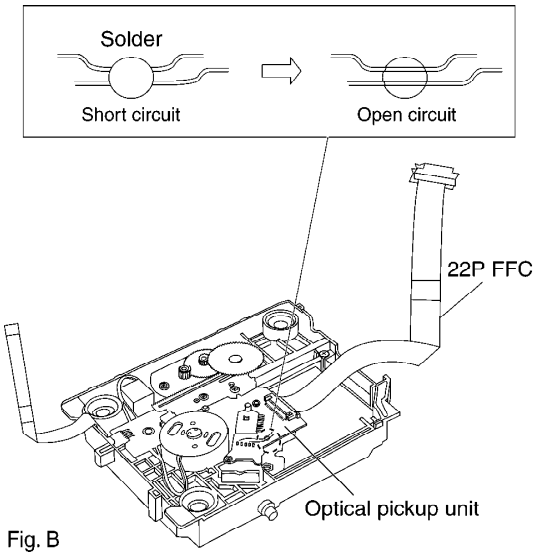
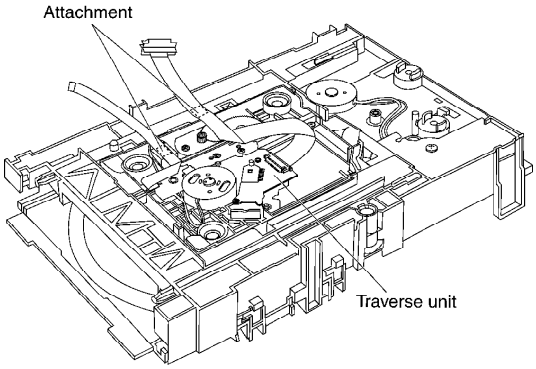


Fig. B

Caution

1. **Do not give a considerable shock to the optical pickup unit as it has an extremely high-precise structure.**
2. **Do not touch the lens in the optical pickup unit.**

2. The FFC is fixed as shown below.

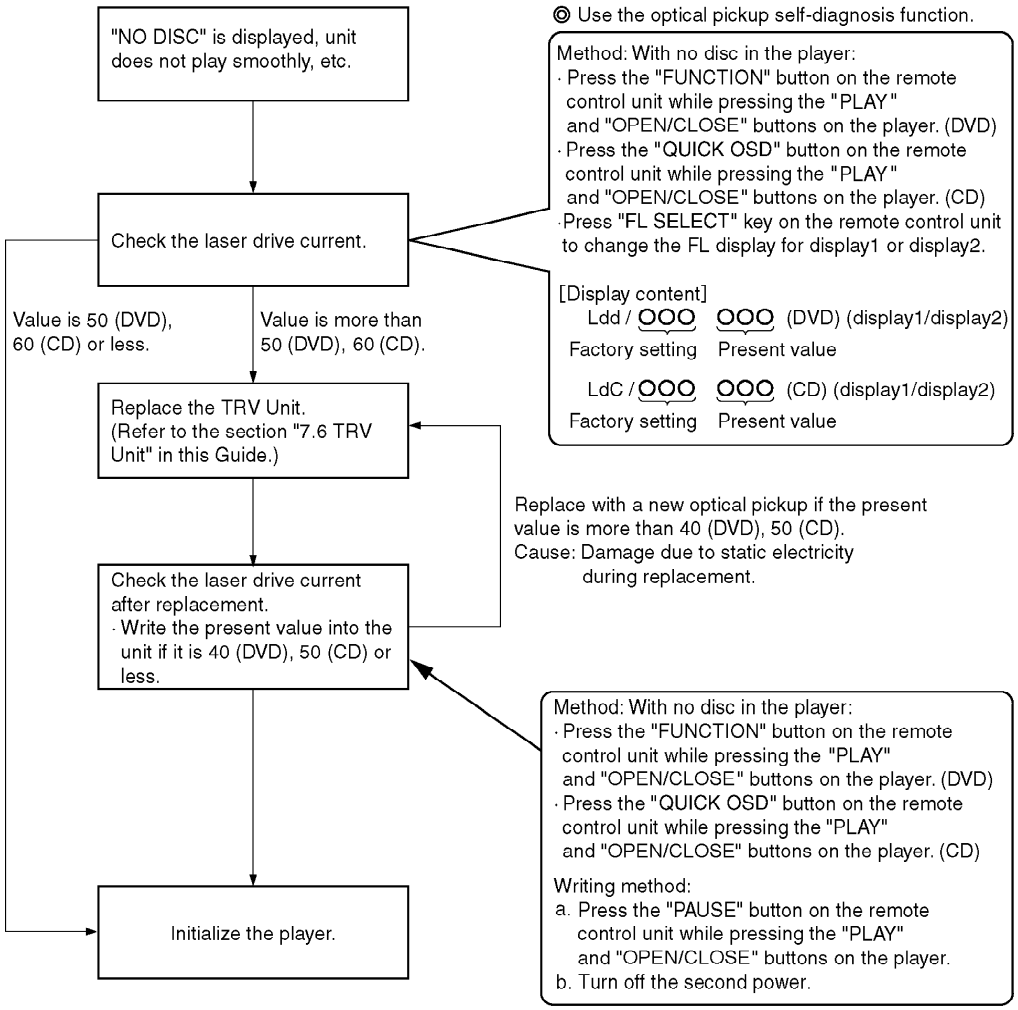


8. SELF-DIAGNOSIS FUNCTION AND SERVICE MODES

8.1. Optical Pickup Breakdown Diagnosis

The optical pickup self-diagnosis function has been included in this unit. When repairing, use the following procedure for effective Self-diagnosis. Be sure to use the self-diagnosis function before replacing the TRV Unit when "NO DISC" is displayed. As a guideline, you should replace the TRV Unit when the value of the laser drive current is more than 55.

Note:
Press the power button to turn on the power, and check the value within three minutes before the unit warms up. (Otherwise, the result will be incorrect.)



8.2. Service Mode Table 1

The service modes can be activated by pressing various button combination on the player and remote control unit. please carry out your operation based on the remote control supplied with Panasonic DVD player of previous models.

Player buttons	Remote control unit buttons	Application	N
PLAY + OPEN/CLOSE	0	Displaying the UHF display F_ _ _	Refer to 8.3. Self- Diagnos Functior Display)
	5	Jitter check, tilt adjustment *Display shows J_xxx/yyy_zz "yyy" and "zz" shown to the right have nothing to do with the jitter value. "yyy" is the error counter, while "zz" isthe focus drive value.	
	6	Checking the region numbers and broadcast system	
	7	Checking the program version	Check th FLASH I program
	9	Lighting Confirmation Function of Display Tube	
	FUNCTION	Checking the laser drive current	Refer to 8.1. Opti Pickup Replace Procedu
	PAUSE	Writing the laser drive current value after replacing the optical pickup (do not use for anything other than optical pickup replacement)	
	POWER	Initializing the DVD player (restoring factory preset settings)	Refer to 8.5. Initi DVD pla

8.3. DVD Self Diagnostic Function-Error Code

Error Code	Error Content	Additional error explanation	Defect 1	Defect 2	Defect 3
U11	Focus error	Focus coil, FE singal error	TRV Unit	DV4.1 (IC8001)	
H01	Tray loading error	LD motor error, DV4.1 (IC8001) error	LD Motor	IC8251	
H02	Spindle servo error	(Spindle servo, DV4.1 (IC8001) SP motor, CLV servo error)	LD Motor	DV4.1 (IC8001)	
H03	Traverse servo error	Traverse servo, DV4.1 (IC8001) , TRV motor error	TRV Motor	DV4.1 (IC8001)	
H04	Tracking servo error	Tracking coil, DV4.1 (IC8001) error	TRV Unit	DV4.1 (IC8001)	
H05	Seek error	TRV Motor, IC8251 error	TRV Motor	IC8251	
H07	Spindle motor drive error	SP motor current error, IC8251 error	TRV Unit	IC8251	
F893	FROM falsification	Firmware soft error, DV4.1 (IC8001) error	FROM (IC8651) (*1)	DV4.1 (IC8001)	
F895	Language area abnormality	Firm version agreement check for factory preset setting failure prevention	FROM (IC8651) (*1)		
F897	initialize is not completed	Initialize completion check for factory preset setting failure prevention			

Note:

An error code will be canceled if a power supply is turned OFF.

***1: When FROM or Module P.C.B is replaced ,be sure to write the present value into the player as the initial setting of laser drive current . (Refer to section 8.5 initial setting of laser drive current .)**

Writing method :

a. Press the "PAUSE" button on the remote control unit while pressing the "PLAY" and "OPEN/CLOSE" buttons on the player.

b. Turn off the second power.

8.4. Last Error Code saved during NO PLAY

Error code	Error Content	Condition	Availabl
F0C0	DVD : Cannot playback because it is not DVD Video	The DVD-ROM/-R/-RW/+R/+RW is not MP3/JPEG/DVD-Video format	POWER, C CLOSE
F0C1	DVD : Prohibited by the restricted region code	The region code of DVD is not right .	POWER, C CLOSE
F0C2	DVD : PAL restricted playback	When put the DVD-PAL disc into the NTSC only player	POWER, C CLOSE
F0C3	DVD : Parental lock setting prohibits the playback of the entire title	“LOCK ALL” of the DISC-RATINGS has been chose.	POWER, C CLOSE

8.5. Service mode table 2

Pressing various button combinations on the player and remote control unit can activate the service modes.
Please carry out your operation based on the remote control supplied with Panasonic DVD player of previous models.

Item	Player mode and button combination	Function	Display	Cancellation method
Jitter check	In PLAY mode, press PLAY and OPEN/CLOSE buttons on the player,and "5" button on the remote control unit. (Press "FL SELECT" key on the remote control unit to change the FL display for Display1 or Display2.)	Jitter check Jitter rate is measured and displayed. Measurement is repeatedly done in the cycle of one second. Read error counter starts from zero upon mode setting. When target block data failed to be read out, the counter advances by one increment. When the failure is caused by minor error, it may be corrected when retried to enable successful reading. In this case, the counter advances by one. When the error persists even after retry, the counter may jump by two or more.	J _xxx/yyy_zz(display1/display2) Focus drive value Read error counter Jitter rate Jitter check mode Jitter rate is shown in decimal notation to one place of decimal. Focus drive value is shown in hexadecimal notation.	Press STOP or OPEN/CLOSE button.
Error code check	In STOP (no disc) or PLAY mode, press PLAY and OPEN/CLOSE buttons on the player, and "0" button on the remote control unit. * With pointing of cursor up and down on display, the panel controller switches serial number of history and sends out the command accordingly.	Error code check The latest error code stored in FLASH ROM is displayed.	Error code (play_err) is expressed in the following convention. Error code = 0 x DAXX is expressed: → nn UXX Error code = 0 x DBXX is expressed: → nn HXX Error code = 0 x DXXX is expressed: → nn FXXX * "nn" denotes the serial number of history.(01～20) * "xx" denotes the error code.	Cancelled automatically 5 seconds later.
Initial setting of laser drive current	In STOP (no disc) mode, press PLAY and OPEN/CLOSE buttons on the player, and PAUSE button on the remote control unit. (Press "FL SELECT" key on the remote control unit to change the FL display for Display1or Display2.)	Initial setting of laser drive currentInitial current value for each of DVD laser and CD laser is separately saved in FLASH ROM.	LdO/034_032(display1/display2) DVD laser current measurement CD laser current measurement Laser current measurement mode The value denotes the current in decimal notation. The above example shows the initial current is 34mA and 28mA for DVD laser and CD laser respectively when the laser is witched on.	Cancelled automatically 5 seconds later.
DVD laser drive current measurement	In STOP (no disc) mode, press PLAY and OPEN/CLOSE buttons on the player, and FUNCTION button on the remote control unit. (Press "FL SELECT" key on the remote control unit to change the FL display for Display1 or Display2.)	DVD laser drive current measurement ·DVD laser drive current is measured and the result is displayed together with the initial value stored in FLASH ROM. After the measurement, DVD laser emission is kept on. It is turned off when POWER key is switched off. (It is also turned off when POWER button on the player is switched off.)	Ldd/034_032(display1/display2) Measured current Initial current stored in EEPROM DVD laser current measurement mode The value denotes the current in decimal notation. The above example shows the initial current is 34mA and the measured value is 32mA.	Cancelled automatically 5 seconds later.
CD laser drive current measurement	In STOP (no disc) mode, press PLAY and OPEN/CLOSE buttons on the player, and QUICK OSD button on the remote control unit. (Press "FL SELECT" key on the remote control unit to change the FL display for Display1 or Display2.)	CD laser drive current measurement CD laser drive current is measured and the result is displayed together with the initial value stored in FLASH ROM. After the measurement, CD laser emission is kept on. It is turned off when POWER key is switched off. (It is also turned off when POWER button on the player is switched off.)	LdC/028_026(display1/display2) Measured current Initial current stored in EEPROM CD laser current measurement mode The value denotes the current in decimal notation. The above example shows the initial current is 28mA and the measured value is 26mA.	Cancelled automatically 5 seconds later.

Item	Player mode and button combination	Function	Display	Cancellation method
Version display	In STOP (no disc) or PLAY mode, press PLAY and OPEN/CLOSE buttons on the player, and "7" button on the remote control unit. (Press "FL SELECT" key on the remote control unit to change the FL display for Display1 or Display2.)	Version display	xxx/y zzz(display1/display2) └ System controller release number └ System controller model number └ System controller generation ※ When check this item, connect this player to monitor TV and check with watching the display shown on the monitor.	Cancelled automatically 5 seconds later.
Lighting of display tube	In any mode, press PLAY and OPEN/CLOSE buttons on the player, and "9" button on the remote control unit.	Lighitng of display tube	———	Repeat the same operation.
Dealer's lock	In PLAY mode, press PLAY and OPEN/CLOSE buttons on the player, and QUICK REPLAY button on the remote control unit.	Dealer's lock The lock is switched ON or OFF. When dealer's lock is ON, it prohibits switching off of the secondary power and tray opening. When the lock is switched, its ON/OFF status is stored in FLASH ROM.	· "LOC" sign appears when dealer's lock is switched on, or when secondary power key or tray opening key is pressed while the lock is on. ·"UNLOC" sign appears when dealer's lock is switched off.	Repeat the same operation.
Initialization	In STOP (no disc) mode, press PLAY, POWER and OPEN/CLOSE buttons on the player for 3 seconds or longer.	Initialization User settings are cancelled and player is initialized to factory setting.	"Ini"	
All reset	When initialization by the user is being performed, and "INI" is displayed on the FL, press PLAY and OPEN/CLOSE buttons on the player.	Initialization User settings are cancelled and player is initialized to factory setting. All of the error codes saved in the FROM are cancelled.	RESET	
Region display	In STOP (no disc) or PLAY mode, press PLAY and OPEN/CLOSE buttons on the player, and "6" button on the remote control unit.	Region display	x_yy_zz └ Panel controller jumper information └ N: NTSC / 6: PAL60 └ N: noPAL / P: PAL └ Region No.	Cancelled automatically 5 seconds later.

Item	Player mode and button combination	Function	Display	Cancellation method
Timer 1 check	In STOP (no disc) mode, press PLAY and OPEN/CLOSE buttons on the player, and "1" button on the remote control unit. (Press "FL SELECT" key on the remote control unit to change the FL display for Display1 or Display2.	Timer 1 check Laser operation timer Operation time is measured separately for DVD laser and CD laser.	t11234/5678(display1/display2) Shown to the display1 is DVD laser time, and to the display2 CD laser time. Time is shown in 4 digits of decimal notation in a unit of 10 hours. "0000" will follow "9999".	Cancelled automatically 5 seconds later.
Timer 1 reset	While displaying Timer 1 data, press PLAY and OPEN/CLOSE buttons on the player, and "2" button on the remote control unit. (Press "FL SELECT" key on the remote control unit to change the FL display for Display1 or Display2.	Timer 1 reset Laser operation timer Operation time of both DVD laser and CD laser is reset all at once.	t10000/0000(display1/display2)	Cancelled automatically 5 seconds later.
Timer 2 check	In STOP (no disc) mode, press PLAY and OPEN/CLOSE buttons on the player, and "3" button on the remote control unit. (Press "FL SELECT" key on the remote control unit to change the FL display for Display1 or Display2.	Timer 2 check Spindle motor operation timer	t21234/5(display1/display2) Time is shown in 5 digits of decimal notation in a unit of 1 hours. "00000" will follow "99999".	Cancelled automatically 5 seconds later.
Timer 2 reset	While displaying Timer 2 data, press PLAY and OPEN/CLOSE buttons on the player and "8" button on the remote control unit. (Press "FL SELECT" key on the remote control unit to change the FL display for Display1 or Display2.	Timer 2 reset Spindle motor operation timer	t20000/0(display1/display2)	Cancelled automatically 5 seconds later.

8.6. Sales demonstration lock function

This function prevents discs from being lost when the unit is used for sales demonstrations by

disabling the disc eject function. "LOC" is displayed on the unit, and ordinary operation is disabled.

8.6.1. Setting

The sales demonstration lock is set by simultaneously pressing PLAY and OPEN/CLOSE buttons on the player and QUICK REPLAY button on the remote control unit for 1 second or longer.

8.6.2. Cancellation

The lock can be cancelled by the same procedure as used in setting. ("UNLOC" is displayed on cancellation. Disconnecting the power cable from power outlet does not cancel the lock.)

8.7. Handling After Completing Repairs

Use the following procedure after completing repairs.

8.7.1. Method

Confirm that the power is turned on:

1. Press the "OPEN/CLOSE" button to close the tray.
2. Press the "POWER" button to turn off the power.
3. Disconnect the power plug from the outlet.

8.7.2. Precautions

Do not disconnect the power plug from the outlet with the tray still open, then close the tray manually.

9. SERVICE PRECAUTIONS

9.1. Recovery after the DVD player is repaired.

- The DVD player requires no recovery process after it is repaired; therefore, there is no necessity of using recovery disc.
- Models that require no recovery process are listed as below(As of Feb.2006):
  *DVD-K32
  *DVD-S32
  *DVD-S1

9.2. Firmware version-up of the DVD player

- The firmware of the DVD player may be renewed to improve the quality including operationability and playability to the substandard discs.
  Make sure to observe the following rules when performing version-up.

Note:
When FROM or module P.C.B. is replaced, carry out the process of firmware version-up.

- The latest firmware required for version-up can be downloaded from TSN-WEB [Support Information from NWBG-PAVC]. When it is finished, use burning software to make up a version-up disc in the form of CD-R.

Note:
Do not modify the file name of downloaded data at random; keep the original file names for disc burning.
Make sure to select normal format instead of image format.
If you may not be able to complete a downloding from the TSN-WEB page, please obtain the file through your local Panasonic Service Organization.

- Updating firmware

1. **Load the version-up disc that is supplied to the player and run it.**
2. **Firmware version of the player is automatically checked. Appropriate message appears whenever necessary.**
3. **Using remote controller's " ENTER" button or player's "OPEN/ CLOSE" button, select whether version updating is to be done or not according to the message appearing on the screen.**
4. **a. If " ENTER" is pushed, version updating is performed.**
   b. If " OPEN/CLOSE" is pushed, version updating is cancelled.
5. **a. When updating is finished, the player will restart. Remove the disc after the tray has opened automatically.**
   b. Remove the disc.
6. **a. Write the present value into the player as the initial setting of laser drive current. (Refer to section 8.5 initial setting of laser drive current .)**
7. **Turn off the power.**

Note:
If the AC power supply is shut out during version-up due to a power failure, the version-up is improperly carried out.
In such a case, replace the FROM and carry out the version-up again.

10. ADJUSTMENT PROCEDURES

10.1. Service Tools and Equipment

Application	Name	Number
Inspection	Extension cable (module P.C.B. to mother P.C.B.)	VUC8026
	Extension cable (module P.C.B. to mother P.C.B.)	RFKZ0106
Others	Hanarl	VFK1784
	Grease	RFKXPG641
	Drysurf	RFKXGUD24
Confirmation	CD test disc	PVCD-K06 or any other commercially available disc
	VCD test disc	PVCD-K06 or any other commercially available disc
	DVD test disc	DVDT-S15 or DVDT-S01

10.2. Important points in electrical adjustment

- Follow the adjustment procedures described in this Manual.

10.3. Storing and Handling Test Discs

- Surface precision is vital for DVD test discs. Be sure to store and handle them carefully.

1. Do not place discs directly onto the workbench, etc., after use.

2. Handle discs carefully in order to maintain their flatness. Place them into their case after use and store them vertically. Store discs in a cool place where they are not exposed to direct sunlight or air from air conditioners.

3. Accurate adjustment will not be possible if the disc is warped when placed on a surface made of glass, etc. If this happens, use a new test disc to make optical adjustments.

4. If adjustment is done using a warped disc, the adjustment will be incorrect and some discs will not be playable.

11. ABBREVIATIONS

INITIAL/LOGO		ABBREVIATIONS
A	A0~UP	ADDRESS
	ACLK	AUDIO CLOCK
	AD0~UP	ADDRESS BUS
	ADATA	AUDIO PES PACKET DATA
	ALE	ADDRESS LATCH ENABLE
	AMUTE	AUDIO MUTE
	AREQ	AUDIO PES PACKET REQUEST
	ARF	
	ASI	AUDIO RF
	ASO	SERVO AMP INVERTED INPUT
	ASYNC	SERVO AMPOUTPUT
		AUDIO WORD DISTINCTION SYNC
B	BCK	BIT CLOCK (PCM)
	BCKIN	BIT CLOCK INPUT
	BDO	BLACK DROP OUT
	BLKCK	SUB CODE BLOCK CLOCK
	BOTTOM	CAP. FOR BOTTOM HOLD
	BYP	BYPATH
	BYTCK	BYTE CLOCK
C	CAV	CONSTANT ANGULAR
	CBDO	VELOCITY
	CD	CAP. BLACK DROP OUT
	CDSCK	COMPACT DISC
	CDSRDATA	CD SERIAL DATA CLOCK
		CD SERIAL DATA
	CDRF	CD RF (EFM) SIGNAL
	CDV	COMPACT DISC-VIDEO
	CHNDATA	CHANNEL DATA
	CKSL	SYSTEM CLOCKSELECT
	CLV	CONSTANT LINEAR VELOCITY
	COFTR	CAP. OFF TRACK
	CPA	CPU ADDRESS
	CPCS	CPU CHIP SELECT
	CPDT	CPU DATA
	CPUADR	CPU ADDRESS LATCH
	CPUADT	CPU ADDRESS DATA BUS
	CPUIRQ	CPU INTERRUPT REQUEST
	CPRD	CPU READ ENABLE
	CPWR	CPU WRITE ENABLE
	CS	CHIPSELECT
	CSYNCIN	COMPOSITE SYNC IN
	CSYNCOUT	COMPOSITE SYNC OUT

INITIAL/LOGO		ABBREVIATIONS
D	DACCK	D/A CONVERTER CLOCK
	DEEMP	DEEMPHASIS BIT ON/OFF
	DEMPH	DEEMPHASIS SWITCHING
	DIG0~UP	FL DIGIT OUTPUT
	DIN	DATA INPUT
	DMSRCK	DM SERIAL DATA READ
	DMUTE	CLOCK
	DO	DIGITAL MUTE CONTROL
	DOUT0~UP	DROP OUT
		DATAOUTPUT
	DRF	DATA SLICE RF (BIAS)
	DRPOUT	DROP OUT SIGNAL
	DREQ	DATA REQUEST
	DRESP	DATA RESPONSE
	DSC	DIGITAL SERVO CONTROLLER
	DSLF	
	DVD	DATA SLICE LOOP FILTER
		DIGITAL VIDEO DISC

INITIAL/LOGO		ABBREVIATIONS
E	EC	ERROR TORQUE CONTROL
	ECR	ERROR TORQUE CONTROL
		REFERENCE
	ENCSEL	ENCODER SELECT
	ETMCLK	EXTERNAL M CLOCK (81MHz/
	ETSCLK	40.5MHz)
		EXTERNAL S CLOCK (54MHz)
F	FBAL	FOCUS BALANCE
	FCLK	FRAME CLOCK
	FE	FOCUS ERROR
	FFI	FOCUS ERROR AMP
	FEO	INVERTED INPUT
	FG	FOCUS ERROR AMP OUTPUT
	FSC	FREQUENCY GENERATOR
	FSCK	FREQUENCY SUB CARRIER
		FS (384 OVER SAMPLING)
		CLOCK
G	GND	COMMON GROUNDING
		(EARTH)
H	HA0~UP	HOST ADDRESS
	HD0~UP	HOST DATA
	HINT	HOST INTERRUPT
	HRXW	HOST READ/WRITE

INITIAL/LOGO		ABBREVIATIONS
I	IECOUT	IEC958 FORMAT DATA OUTPUT
	IPFRAG	INTERPOLATION FLAG
	IREF	I (CURRENT) REFERENCE
	ISEL	INTERFACE MODE SELECT
L	LDON	LASER DIODE CONTROL
	LPC	LASER POWER CONTROL
	LRCK	L CH/R CH DISTINCTION CLOCK
M	MA0~UP	MEMORY ADDRESS
	MCK	MEMORY CLOCK
	MCKI	MEMORY CLOCK INPUT
	MCLK	MEMORY SERIAL COMMAND CLOCK
	MDATA	MEMORY SERIAL COMMAND DATA
	MDQ0~UP	MEMORY DATA INPUT/OUTPUT
	MDQM	MEMORY DATA I/O MASK
	MLD	MEMORYSERIAL COMMAND LOAD
	MPEG	MOVING PICTURE EXPERTS GROUP
O	ODC	OPTICAL DISC CONTROLLER
	OFTR	OFF TRACKING
	OSCI	OSCILLATOR INPUT
	OSCO	OSCILLATOR OUTPUT
	OSD	ON SCREEN DISPLAY
P	P1~UP	PORT
	PCD	CD TRACKING PHASE DIFFERENCE
	PCK	PLL CLOCK
	PDVD	DVD TRACKING PHASE DIFFERENCE
	PEAK	CAP. FOR PEAK HOLD
	PLLCLK / PLLOK	CHANNEL PLL CLOCK PLL LOCK
	PWMCTL	PWM OUTPUT CONTROL
	PWMDA	PULSE WAVE MOTOR DRIVEA
	PWMOA, B	PULSE WAVE MOTOR OUT A, B

INITIAL/LOGO		ABBREVIATIONS
R	RE	READ ENABLE
	RFENV	RF ENVELOPE
	RFO	RF PHASE DIFFERENCE
	RS	OUTPUT
	RSEL	(CD-ROM) REGISTER SELECT
	RST	RF POLARITY SELECT
	RSV	RESET
		RESERVE
S	SBI0, 1	SERIAL DATA INPUT
	SBO0	SERIAL DATA OUTPUT
	SBT0, 1	SERIAL CLOCK
	SCK	SERIAL DATA CLOCK
	SCKR	AUDIO SERIAL CLOCK
	SCL	RECEIVER
	SCLK	SERIAL CLOCK
	SDA	SERIAL CLOCK
	SEG0~UP	SERIAL DATA
	SELCLK	FL SEGMENT OUTPUT
	SEN	SELECTCLOCK
	SIN1, 2	SERIAL PORT ENABLE
	SOUT1, 2	SERIAL DATA IN
	SPDI	SERIAL DATA OUT
	SPDO	SERIAL PORT DATA INPUT
	SPEN	SERIAL PORT DATA OUTPUT
	SPRCLK	SERIAL PORT R/W ENABLE
	SPWCLK	SERIAL PORT READ CLOCK
	SQCK	SERIAL PORT WRITE CLOCK
	SQCX	SUB CODE Q CLOCK
	SRDATA	SUBCODE Q DATA READ
	SRMADR	CLOCK
	SRMDT0~7	SERIAL DATA
		SRAM ADDRESS BUS
	SS	SRAM DATA BUS 0~7
	STAT	START/STOP
	STCLK	STATUS
	STD0~UP	STREAM DATA CLOCK
	STENABLE	STREAM DATA
		STREAM DATA INPUT ENABLE
	STSEL	STREAM DATA POLARITY
	STVALID	SELECT
	SUBC	STREAM DATAVALIDITY
	SBCK	SUB CODE SERIAL
	SUBQ	SUB CODE CLOCK
	SYSCLK	SUB CODE Q DATA

	[illegible]	SYSTEM CLOCK

INITIAL/LOGO		ABBREVIATIONS
T	TE	TRACKING ERROR
	TIBAL	BALANCE CONTROL
	TID	BALANCE OUTPUT 1
	TIN	BALANCE INPUT
	TIP	BALANCE INPUT
	TIS	BALANCE OUTPUT 2
	TPSN	OP AMP INPUT
	TPSO	OP AMP OUTPUT
	TPSP	OP AMP INVERTED INPUT
	TRCRS	TRACK CROSSSIGNAL
	TRON	TRACKING ON
	TRSON	TRAVERSE SERVO ON

INITIAL/LOGO		ABBREVIATIONS
V	VBLANK	V BLANKING
	VCC	COLLECTOR POWER SUPPLY VOLTAGE
	VCDCONT	VIDEO CD CONTROL (TRACKING BALANCE)
	VDD	DRAIN POWER SUPPLY VOLTAGE
	VFB	VIDEO FEED BACK
	VREF	VOLTAGE REFERENCE
	VSS	SOURCE POWER SUPPLYVOLTAGE
W	WAIT	BUS CYCLE WAIT
	WDCK	WORD CLOCK
	WEH	WRITE ENABLE HIGH
	WSR	WORD SELECT RECEIVER

INITIAL/LOGO		ABBREVIATIONS
X	X	X' TAL
	XALE	X ADDRESS LATCH ENABLE
	XAREQ	X AUDIO DATA REQUEST
	XCDROM	X CD ROM CHIP SELECT
	XCS	X CHIP SELECT
	XCSYNC	X COMPOSITE SYNC
	XDS	X DATA STROBE
	XHSYNCO	X HORIZONTAL SYNC OUTPUT
	XHINT	XH INTERRUPTREQUEST
	XI	X' TAL OSCILLATOR INPUT
	XINT	X INTERRUPT
	XMW	X MEMORY WRITE ENABLE
	XO	X' TAL OSCILLATOR OUTPUT
	XRE	X READ ENABLE
	XSRMCE	X SRAM CHIP ENABLE
	XSRMOE	X SRAM OUTPUT ENABLE
	XSRMWE	X SRAM WRITE ENABLE
	XVCS	X V-DEC CHIPSELECT
	XVDS	X V-DEC CONTROL BUS
	XVSYNCO	STROBE X VERTICAL SYNC OUTPUT

12. VOLTAGE CHART

Note:

- Circuit voltage and waveform described herein shall be regarded as reference information when probing defect point, because it may differ from an actual measuring value due to difference of measuring instrument and its measuring condition and product itself.

12.1. MOTHER P.C.B.

12.2. MODULE P.C.B.

13. BLOCK DIAGRAM

Note:

Circuit voltage and waveform described herein shall be regarded as reference information when probing defect point, because it may differ from an actual measuring value due to difference of measuring instrument and its measuring condition and product itself.

13.1. OVERALL BLOCK DIAGRAM

13.2. POWER SUPPLY BLOCK DIAGRAM

13.3. SERVO BLOCK DIAGRAM

13.4. VIDEO BLOCK DIAGRAM

13.5. AUDIO BLOCK DIAGRAM

14. INTERCONNECTION SCHEMATIC DIAGRAM & SCHEMATIC DIAGRAM NOTES

14.1. INTERCONNECTION SCHEMATIC DIAGRAM

14.2. SCHEMATIC DIAGRAM NOTES

This schematic diagram may be modified at any time with the development of new technology.

Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purpose of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

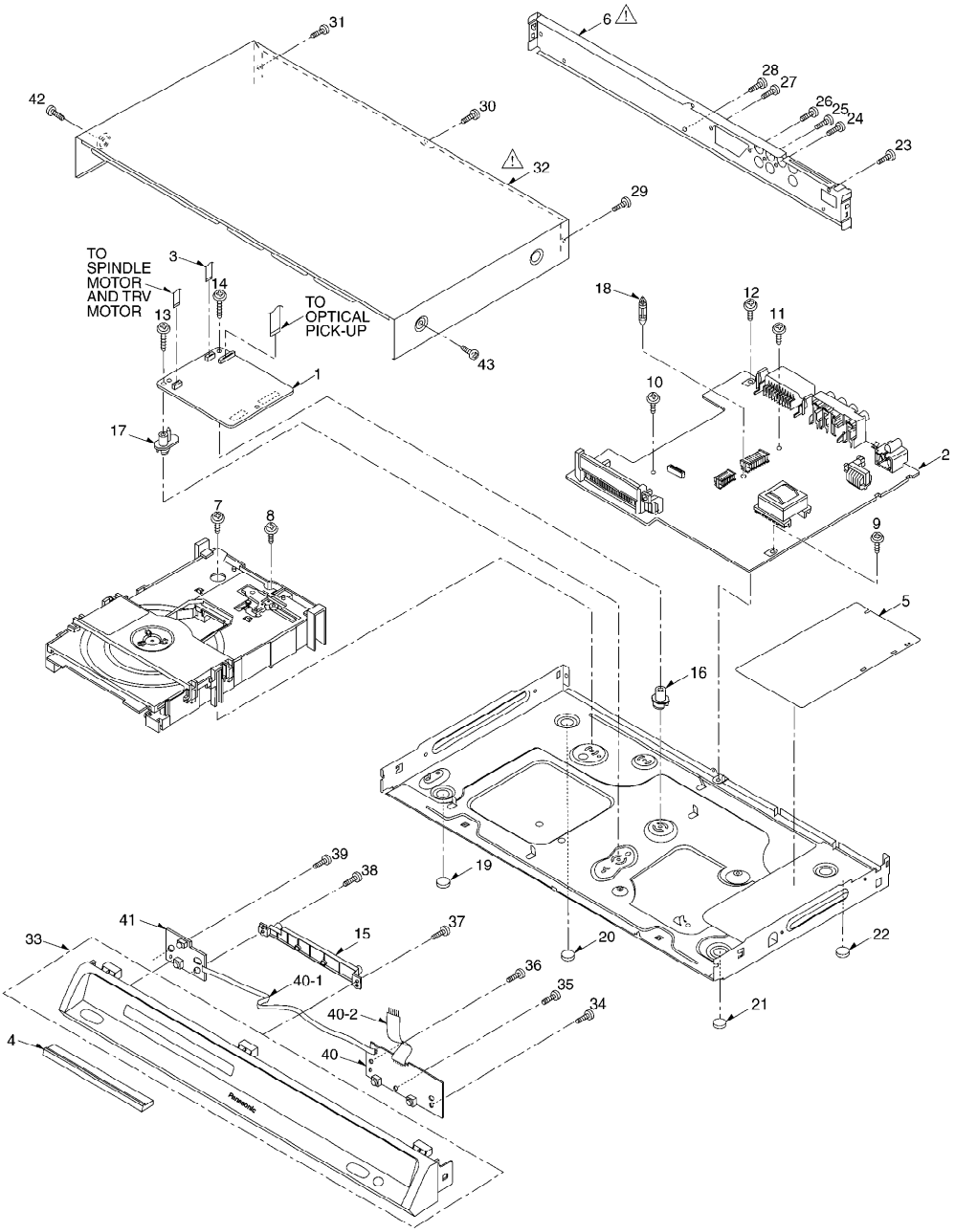
Important safety notice:
There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the schematic diagrams. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

Caution!

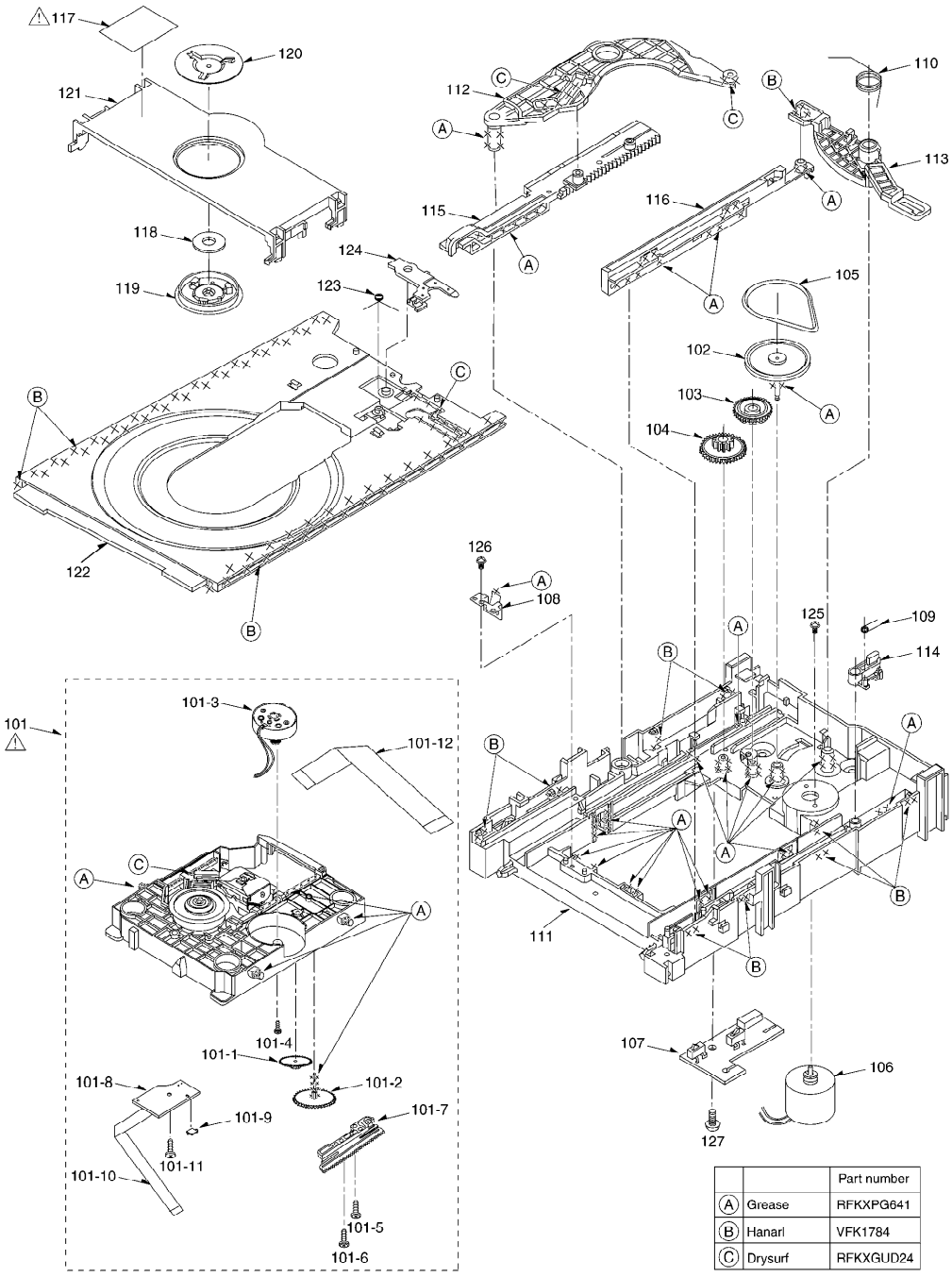
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
Cover the parts boxes made of plastics with aluminum foil.
Ground the soldering iron.
Put a conductive mat on the work table.
Do not touch the legs of IC or LSI with the fingers directly.

15. SCHEMATIC DIAGRAM

15.1. POWER SUPPLY SECTION (MOTHER P.C.B. (1 / 2)) SCHEMATIC DIAGRAM

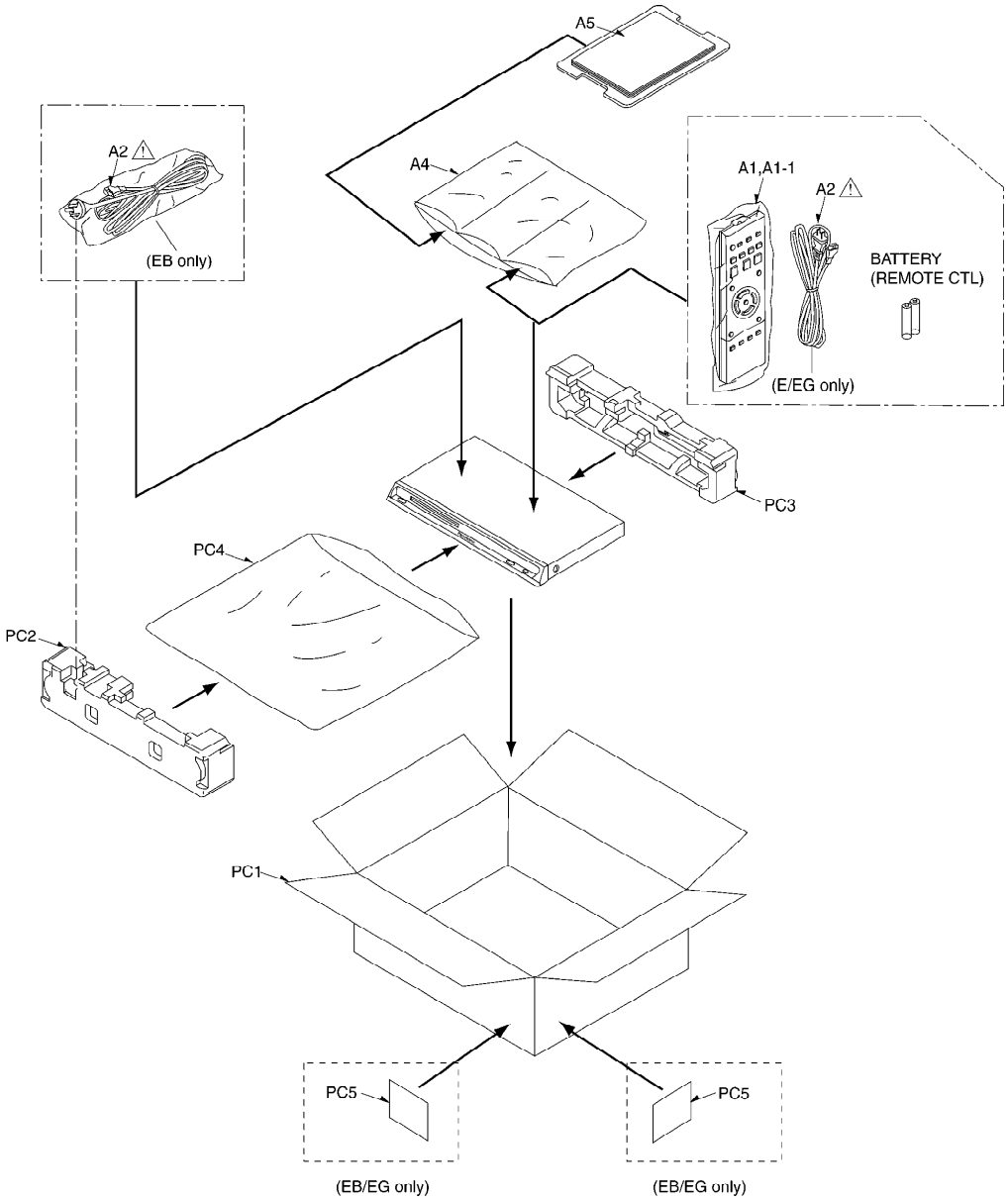


17.2. MECHANISM SECTION EXPLODED VIEW



		Part number
A	Grease	RFKXPG641
B	Hanarl	VFK1784
C	Drysurf	RFKXGUD24

17.3. PACKING & ACCESSORIES SECTION EXPLODED VIEW



18. REPLACEMENT PARTS LIST

Notes:
***Important safety notice:**
Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
***Warning: This product uses a laser diode. Refer to caution statements.**
***Capacity values are in microfarads (μ F) unless specified otherwise, P=Pico-farads (pF), F= Farads (F).**
***Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000k (OHM).**
***The marking (RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.**

***"(IA)-(ID)", marks in Remarks indicate languages of instruction manuals. [(IA): English, (IB): Polish, (IC): German/ Italian/ French, (ID): Netherlands/ Swedish/ Danish]**
***All parts except parts mentioned [SPC] in the Remarks column are supplied by PAVCSG.**
***Parts mentioned [SPC] are supplied by PAVC-CSG.**

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	VEP79120F	MODULE P.C.B.	1	(RTL)
2	VEP76138A	MOTHER P.C.B.	1	(RTL)
3	REZ1710	FFC(7P)	1	
4	RGKC0068	TRAY TOP	1	
5	RGQC0037	INSULATION SHEET	1	
6	RGRC0023A-A	REAR PANEL	1	E/EG ⚠
6	RGRC0023A-B	REAR PANEL	1	EB ⚠
7	RHD30101-1J	SCREW	1	
8	RHD30101-1J	SCREW	1	
9	RHD30111-3J	SCREW	1	
10	RHD30111-3J	SCREW	1	
11	RHD30111-3J	SCREW	1	
12	RHD30111-3J	SCREW	1	
13	RHDC0023-J	SCREW	1	
14	RHDC0023-J	SCREW	1	
15	RGQC0046	FRONT ANGLE	1	
16	RMNC0016	PCB SUPPORT(A)	1	
17	RMNC0017	PCB SUPPORT(B)	1	
18	RMNC0019	PCB SUPPORT	1	
19	RKA0130-K	FOOT RUBBER	1	
20	RKA0130-K	FOOT RUBBER	1	
21	RKA0130-K	FOOT RUBBER	1	
22	RKA0130-K	FOOT RUBBER	1	
23	VHD0690-1	SCREW	1	
24	VHD0690-1	SCREW	1	
25	VHD0690-1	SCREW	1	
26	VHD0690-1	SCREW	1	
27	VHD0690-1	SCREW	1	
28	VHD0690-1	SCREW	1	
29	VHD0690-1	SCREW	1	
30	VHD0690-1	SCREW	1	
31	VHD0690-1	SCREW	1	
32	RKMC0013-S	TOP PANEL	1	⚠
33	RFKGDVDS1EAS	FRONT PANEL ASS'Y	1	
34	RHD26046	SCREW	1	
35	RHD26046	SCREW	1	
36	RHD26046	SCREW	1	
37	RHD26046	SCREW	1	
38	RHD26046	SCREW	1	
39	RHD26046	SCREW	1	
40	VEP70141B	FRONT P.C.B.	1	
40-1	REZ1772	CABLE (4P)	1	
40-2	REZ1732	CABLE (6P)	1	
41	VEP70138A	SW P.C.B.	1	
42	RHD30007-1SJ	SCREW	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
43	RHD30007-1SJ	SCREW	1	
101	RXQC0006	TRV UNIT ASS'Y	1	⚠
101-1	RDGC0002	TRV GEAR A	1	
101-2	RDGC0003	TRV GEAR B	1	
101-3	RXQ1397	TRAVERSE MOTOR ASS'Y	1	
101-4	XQN17+C28FJ	SCREW	1	
101-5	RHDC0026	SCREW	1	
101-6	RHDC0026	SCREW	1	
101-7	RMMC0004	OPU DRIVE RACK	1	
101-8	VEP70140A	TRV-SW P.C.B. Unit	1	
101-9	ESE22MH24	SWITCH	1	
101-10	REZC0055	6P FFC	1	
101-11	VHD1224-1	SCREW	1	
101-12	REZC0056	PICKUP FFC(22P)	1	
102	RDG0597	PULLEY GEAR	1	
103	RDG0548	RELAY GEAR	1	
104	RDG0549	DRIVE GEAR	1	
105	RDV0070	BELT	1	
106	REM0129	LOADING MOTOR ASS'Y	1	
107	VEP70114A-1	MOTOR P.C.B.	1	(RTL)
108	RMC0387	SUPPORT SPRING	1	
109	RME0351	LOCK LEVER SPRING	1	
110	RMEC0350	CHANGE LEVER SPRING	1	
111	RMK0616-1	MECHA CHASSIS ASS'Y	1	
112	RML0680	DRIVE ARM	1	
113	RML0628	CHANGE LEVER	1	
114	RML0629	LOCK LEVER	1	
115	RMM0283	DRIVE RACK	1	
116	RMM0284	SUB RACK	1	
117	RQLCA0141	LASER CAUTION LABEL	1	⚠
118	JSMC0048	MAGNET	1	
119	RMR1685-X	CLAMPER	1	
120	RMA1890	MAGNET HOLDER	1	
121	RMR1686-K	CLAMP PLATE	1	
122	RGQ0417-K	TRAY	1	
123	RME0353-1	TRAY SLIDER SPRING	1	
124	RML0631	TRAY SLIDER	1	
125	XQN17+C25FJ	SCREW	1	
126	XTB26+6GFJ	SCREW	1	
127	XTN2+6GFJ	SCREW	1	
A1	N2QAYB000014	REMOTE CONTROL ASS'Y	1	
A1-1	103RRS-176-01E	BATTERY COVER	1	
A2	K2CT3CA00004	AC CORD	1	EB ⚠
A2	K2CQ2CA00006	AC CORD	1	E/EG ⚠
A4	RPFC0042	POLYETHYLENE BAG(F.B.)	1	
A5	RQTC0077-B	OPERATING INSTRUCTIONS	1	(IA) E/EB
A5	RQTC0079-E	OPERATING INSTRUCTIONS	1	(IB) E
A5	RQTC0075-D	OPERATING INSTRUCTIONS	1	(IC) EG
A5	RQTC0076-H	OPERATING INSTRUCTIONS	1	(ID) EG
C1001	F0CAF104A024	0.1U	1	⚠

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C1002	F0CAF104A024	0.1U	1	⚠
C1003	ECKMNA471MBV	470P	1	⚠
C1004	ECKMNA102MEV	1000P	1	⚠
C1011	ECA2WHG100E	450V 10U	1	
C1012	ECA2WHG100E	450V 10U	1	
C1021	F1A3D221A010	2000V 220P	1	
C1031	F1B3A332A008	1000V 0.0033U	1	
C1041	F2A1H1010044	50V 100U	1	
C1051	ECQB1H152JF4	50V 0.0015U	1	
C1061	ECQB1H101KF4	50V 100P	1	
C1071	ECQB1H103JF4	50V 0.01U	1	
C1081	ECQB1H152JF4	50V 0.0015U	1	
C1082	ECQB1H472JF4	50V 0.0047U	1	
C1092	F2A1H100A003	50V 10U	1	
C1101	ECQV1H684JL2	50V 0.68U	1	
C1102	ECQB1H104JF4	50V 0.1U	1	
C1110	F1H1H103A798	50V 0.01U	1	
C1111	F2A1A681A539	10V 680U	1	
C1112	F2A1A102A206	10V 1000U	1	
C1115	F1H1C104A111	16V 0.1U	1	
C1116	F2A1A221A501	10V 220U	1	
C1117	F2A0J102A247	6.3V 1000U	1	
C1121	F2A0J681A550	6.3V 680U	1	
C1122	F2A0J222A522	6.3V 2200U	1	
C1141	F2A1E1010067	25V 100U	1	
C1151	F2A1E3310051	25V 330U	1	
C1153	F2A1E331A550	25V 330U	1	
C1154	F2A1C221A236	16V 220U	1	
C1155	ECJ1VB1E104K	25V 0.1U	1	
C1171	F2A1A1010072	10V 100U	1	
C1195	ECJ1VB1A105K	10V 1U	1	
C1196	ECJ1VB1A105K	10V 1U	1	
C3502	F1H1H103A798	50V 0.01U	1	
C3503	ECJ1VB1C105K	16V 1U	1	
C3504	ECJ1VB1C105K	16V 1U	1	
C3505	ECJ1VB1C104K	16V 0.1U	1	
C3506	F1H1H103A798	50V 0.01U	1	
C3507	F2A0J220A245	6.3V 22U	1	
C3508	ECJ1VB0J105K	6.3V 1U	1	
C3509	ECJ1VB0J105K	6.3V 1U	1	
C3510	ECJ1VB0J105K	6.3V 1U	1	
C3511	ECJ1VB0J105K	6.3V 1U	1	
C3512	F2A0J102A247	6.3V 1000U	1	
C3513	F2A0J102A247	6.3V 1000U	1	
C3514	F2A0J102A247	6.3V 1000U	1	
C3516	F2A0J102A247	6.3V 1000U	1	
C3518	F2A0J470A245	6.3V 47U	1	
C3804	F1H1H103A798	50V 0.01U	1	
C3805	F1H1H103A798	50V 0.01U	1	
C3806	F2A0J470A245	6.3V 47U	1	
C3811	F2A0J470A245	6.3V 47U	1	
C3812	ECJ1VB1C104K	16V 0.1U	1	
C3813	F1H1H103A798	50V 0.01U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C3814	ECJ1VB1C105K	16V 1U	1	
C3815	ECJ1VB1C105K	16V 1U	1	
C3816	F2A0J220A245	6.3V 22U	1	
C3817	ECJ1VB1C105K	16V 1U	1	
C3818	ECJ1VB1C105K	16V 1U	1	
C3819	ECJ1VB1C105K	16V 1U	1	
C3851	ECJ1VC1H102J	50V 1000P	1	
C3852	ECJ1VC1H102J	50V 1000P	1	
C3871	F1H1H101A799	50V 100P	1	
C3872	F1H1H101A799	50V 100P	1	
C4050	F1H1C104A111	16V 0.1U	1	
C4313	F1H1C104A111	16V 0.1U	1	
C4314	F1H1C104A111	16V 0.1U	1	
C4315	F1H1C104A111	16V 0.1U	1	
C4323	F2A1H221A236	50V 220U	1	
C4324	F2A1H221A236	50V 220U	1	
C4336	F1H1H820A799	50V 82P	1	
C4337	F1H1H820A799	50V 82P	1	
C4414	F2A1E470A205	25V 47U	1	
C4415	F2A1E470A205	25V 47U	1	
C4423	ECJ1VC1H102J	50V 1000P	1	
C4427	ECJ1VC1H102J	50V 1000P	1	
C4431	F1H1C104A111	16V 0.1U	1	
C4432	ECJ1VB1C104K	16V 0.1U	1	
C4501	ECJ1VB1H102K	50V 1000P	1	
C4502	ECJ1VB1C104K	16V 0.1U	1	
C4591	F1H1C104A111	16V 0.1U	1	
C4703	ECJ1VB1C104K	16V 0.1U	1	
C4751	F2A1E470A205	25V 47U	1	
C4752	F2A1E470A205	25V 47U	1	
C4781	F2A0J470A599	6.3V 47U	1	
C6001	ECJ1VB1C104K	16V 0.1U	1	
C6002	ECJ1VB1C104K	16V 0.1U	1	
C6003	F2A0J101A245	6.3V 100U	1	
C6005	F2A1H100A601	50V 10U	1	
C6006	F1H1H103A798	50V 0.01U	1	
C6081	F1H1H103A798	50V 0.01U	1	
C6132	ECJ1VB1C104K	16V 0.1U	1	
C8001	F2G0G331A012	4V 330U	1	
C8002	F1G1C104A042	16V 0.1U	1	
C8003	F1G1C104A042	16V 0.1U	1	
C8004	F1G1C104A042	16V 0.1U	1	
C8005	F1G1C104A042	16V 0.1U	1	
C8006	F1G1C104A042	16V 0.1U	1	
C8007	F1G1C104A042	16V 0.1U	1	
C8011	F2G0J101A066	6.3V 100U	1	
C8012	F1G1C104A042	16V 0.1U	1	
C8013	F1G1C104A042	16V 0.1U	1	
C8014	F1G1C104A042	16V 0.1U	1	
C8015	F1G1C104A042	16V 0.1U	1	
C8016	F1G1C104A042	16V 0.1U	1	
C8018	F1G1C104A042	16V 0.1U	1	
C8020	F1G1C104A042	16V 0.1U	1	
C8021	F1G1C104A042	16V 0.1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C8022	F1G1C104A042	16V 0.1U	1	
C8023	F1G1C104A042	16V 0.1U	1	
C8026	F1G1C104A042	16V 0.1U	1	
C8051	ECJ1VB0J105K	6.3V 1U	1	
C8052	F1G1A104A014	10V 0.1U	1	
C8053	F1G1C104A042	16V 0.1U	1	
C8054	F1G1H221A495	50V 220P	1	
C8055	ECJ1VB0J105K	6.3V 1U	1	
C8056	F1G1E222A062	25V 0.0022U	1	
C8057	ECJ1VB0J105K	6.3V 1U	1	
C8151	ECJ2FB0J106K	6.3V 10U	1	
C8152	ECJ1VB1C105K	16V 1U	1	
C8201	F2G0J101A066	6.3V 100U	1	
C8202	F1G1A104A014	10V 0.1U	1	
C8203	F1G1A104A014	10V 0.1U	1	
C8211	F1G1E122A062	25V 0.0012U	1	
C8221	F1G1E102A062	25V 0.001U	1	
C8222	F1G1E821A056	25V 820P	1	
C8225	F1G1E102A062	25V 0.001U	1	
C8226	F1G1E102A062	25V 0.001U	1	
C8231	F1G1A104A014	10V 0.1U	1	
C8232	F1G1A104A014	10V 0.1U	1	
C8251	F2G0J221A065	6.3V 220U	1	
C8252	F1G1C104A042	16V 0.1U	1	
C8255	F2G1C470A076	16V 47U	1	
C8256	F1G1C104A042	16V 0.1U	1	
C8257	F1G1C104A042	16V 0.1U	1	
C8261	F1G1C104A042	16V 0.1U	1	
C8301	F2G0J221A031	6.3V 220U	1	
C8302	F2G0J330A031	6.3V 33U	1	
C8303	F1G1A104A014	10V 0.1U	1	
C8304	F1G1A104A014	10V 0.1U	1	
C8305	F1G1A104A014	10V 0.1U	1	
C8306	F1G1A104A014	10V 0.1U	1	
C8311	F1G1A104A014	10V 0.1U	1	
C8312	ECJ1VB0J105K	6.3V 1U	1	
C8313	ECJ1VB0J105K	6.3V 1U	1	
C8401	F1G1H150A542	50V 15P	1	
C8423	F2G0J330A083	6.3V 33U	1	
C8424	F1G1C104A042	16V 0.1U	1	
C8429	F1G1C104A042	16V 0.1U	1	
C8430	F2G0J470A083	6.3V 47U	1	
C8501	F2G0J101A031	6.3V 100U	1	
C8502	F1G1C104A042	16V 0.1U	1	
C8503	F1G1C104A042	16V 0.1U	1	
C8504	F1G1C104A042	16V 0.1U	1	
C8505	F1G1C104A042	16V 0.1U	1	
C8511	ECJ1VB0J105K	6.3V 1U	1	
C8512	ECJ1VB0J105K	6.3V 1U	1	
C8513	F1G1A104A014	10V 0.1U	1	
C8514	F1G1A104A014	10V 0.1U	1	
C8515	F1G1A104A014	10V 0.1U	1	
C8516	F1G1A104A014	10V 0.1U	1	
C8521	F1G1A104A014	10V 0.1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C8522	F1G1A104A014	10V 0.1U	1	
C8523	F1G1C104A042	16V 0.1U	1	
C8524	F1G1C104A042	16V 0.1U	1	
C8525	F1G1C562A040	16V 0.0056U	1	
C8526	F1G1C183A004	16V 0.018U	1	
C8527	F1G1C333A004	16V 0.033U	1	
C8528	ECJ1VB0J105K	6.3V 1U	1	
C8529	ECJ1VB0J105K	6.3V 1U	1	
C8530	F1G1C104A042	16V 0.1U	1	
C8531	F1G1H1010005	50V 100P	1	
C8532	F1G1H221A495	50V 220P	1	
C8533	F1G1C104A042	16V 0.1U	1	
C8541	F1G1E472A062	25V 4700P	1	
C8550	F2G0J330A031	6.3V 33U	1	
C8551	F1G1C104A042	16V 0.1U	1	
C8552	F2G0J470A063	6.3V 47U	1	
C8553	F2G0J470A031	6.3V 47U	1	
C8554	ECJ1VB0J105K	6.3V 1U	1	
C8561	F1G1C104A042	16V 0.1U	1	
C8562	F2G0J470A063	6.3V 47U	1	
C8563	F2G0J470A031	6.3V 47U	1	
C8564	ECJ1VB0J105K	6.3V 1U	1	
C8571	F1K1A1060017	10V 10U	1	
C8572	F1G1C104A042	16V 0.1U	1	
C8601	F1G1C104A042	16V 0.1U	1	
C8602	F1G1C153A004	16V 0.015U	1	
C8606	F1G1C104A042	16V 0.1U	1	
C8607	F1G1C562A040	16V 0.0056U	1	
C8621	F1G1H180A542	50V 18P	1	
C8622	F1G1H200A451	50V 20P	1	
C8651	F1G1C104A042	16V 0.1U	1	
C8652	F1G1C104A042	16V 0.1U	1	
C8702	F1G1A104A014	10V 0.1U	1	
D1011	B0EDKT000009	DIODE	1	
D1031	B0HADV000001	DIODE	1	
D1041	B0HAGM000006	DIODE	1	
D1051	MAZ40910HF	DIODE	1	
D1061	MA2C16500E	DIODE	1	
D1071	MAZ41000MF	DIODE	1	
D1072	MA2C16500E	DIODE	1	
D1081	MAZ40910HF	DIODE	1	
D1082	MA2C16500E	DIODE	1	
D1111	B0JAMG000013	DIODE	1	
D1121	B0JAMG000013	DIODE	1	
D1122	B0EAKM000117	DIODE	1	
D1141	B0JAMK000023	DIODE	1	
D1151	B0JAMK000023	DIODE	1	
D1152	B0JAMK000023	DIODE	1	
D1153	B0EAKM000122	DIODE	1	
D1171	B0JAME000037	DIODE	1	
D3821	MA3X152A0L	DIODE	1	
D4301	MAZ40560HF	DIODE	1	
D6081	MAZ40910LF	ZENNER DIODE	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D6101	LNJ201LPQJA	LED	1	
D6102	MA2J11100L	DIODE	1	
D6103	MA2J11100L	DIODE	1	
D6104	MA2J11100L	DIODE	1	
D8211	MA2J11100L	DIODE	1	
DP6081	A2BA00000229	FL DISPLAY SCREEN	1	
F1001	K5D162BLA013	FUSE	1	⚠
FP2601	K1MN07B00009	7PIN JACK	1	
FP3501	K1KY14AA0274	BTB2.0 JACK	1	
FP3502	K1KY20AA0274	BTB2.0 JACK	1	
FP8251	K1MN06AA0076	JACK	1	
FP8252	K1MN07AA0076	JACK	1	
FP8531	K1MY22AA0027	JACK	1	
IC1021	C0DACZH00033	IC	1	
IC1101	C0DAEMB00003	IC	1	
IC1151	C0DBZHG00047	IC	1	
IC1195	C0DBZGG00062	IC	1	
IC3501	C9ZB00000498	IC	1	
IC3502	C1AB00001935	IC	1	
IC3802	C1AB00001731	IC	1	
IC3811	C9ZB00000461	IC	1	
IC4301	C0ABBB000230	IC	1	
IC6001	C0HBB0000057	IC	1	
IC8001	MN2DS0014VP	IC	1	
IC8051	C3ABPG000145	IC	1	
IC8151	C0DBEYY00016	IC	1	
IC8251	C0GBG0000054	IC	1	
IC8601	C0EBA0000029	IC	1	
IC8606	C0EBE0000120	IC	1	
IC8651	RFKWSSA0B080	IC	1	[SPC]
IP3802	K5H501Z00005	IC PROTECTOR	1	
IP4751	K5H252Z00003	IC PROTECTOR	1	
IR6131	B3RAD0000115	REMOTE RECEIVING SENSOR	1	
JK3871	K1FB121B0016	JACK AV	1	
JK4401	K2YZ07000005	JACK AUDIO VIDEO OUT	1	
K3871	ERJ3GEY0R00V	1/10W 0	1	
K6101	ERJ3GEY0R00V	1/10W 0	1	
K6161	ERJ3GEY0R00V	1/10W 0	1	
K6163	ERJ3GEY0R00V	1/10W 0	1	
K8101	ERJ3GEY0R00V	1/10W 0	1	
K8102	ERJ3GEY0R00V	1/10W 0	1	
K8103	ERJ3GEY0R00V	1/10W 0	1	
K8104	ERJ6GEY0R00V	1/10W 0	1	
K8105	ERJ3GEY0R00V	1/10W 0	1	
K8251	ERJ3GEY0R00V	1/10W 0	1	
K8261	ERJ2GE0R00X	1/16W 0	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
K8321	ERJ2GE0R00X	1/16W 0	1	
K8325	ERJ2GE0R00X	1/16W 0	1	
K8331	ERJ2GE0R00X	1/16W 0	1	
K8335	ERJ2GE0R00X	1/16W 0	1	
K8341	ERJ2GE0R00X	1/16W 0	1	
K8401	ERJ3GEY0R00V	1/10W 0	1	
K8402	ERJ3GEY0R00V	1/10W 0	1	
K8403	ERJ3GEY0R00V	1/10W 0	1	
K8421	ERJ3GEY0R00V	1/10W 0	1	
K8571	ERJ3GEY0R00V	1/10W 0	1	
K8572	ERJ3GEY0R00V	1/10W 0	1	
K8701	ERJ2GE0R00X	1/16W 0	1	
K8705	ERJ2GE0R00X	1/16W 0	1	
K8706	ERJ2GE0R00X	1/16W 0	1	
K8707	ERJ2GE0R00X	1/16W 0	1	
K8708	ERJ2GE0R00X	1/16W 0	1	
K8709	ERJ2GE0R00X	1/16W 0	1	
L1001	ELF15N003A	NOISE FILTER	1	⚠
L1111	G0A100HA0023	COIL 10UH	1	
L1117	G0C100JA0048	COIL 10UH	1	
L1131	G0C330KA0065	COIL 33UH	1	
L1141	G0C330KA0065	COIL 33UH	1	
L1151	G0A220GA0026	COIL 22UH	1	
L3501	G0C220JA0019	COIL 22UH	1	
L3502	G0C220JA0019	COIL 22UH	1	
L6001	G0C101JA0019	COIL 100UH	1	
L8201	G1C100K00019	CHIP INDUCTOR	1	
L8301	G1C100K00019	CHIP INDUCTOR	1	
L8302	G1C100K00019	CHIP INDUCTOR	1	
L8501	G1C100K00019	CHIP INDUCTOR	1	
L8550	G1C100KA0055	CHIP INDUCTOR 10UH	1	
LB3533	J0JBC0000117	COIL	1	
LB3534	J0JCC0000186	COIL	1	
LB3535	J0JBC0000117	COIL	1	
LB3536	J0JBC0000117	COIL	1	
LB3871	J0JBC0000117	COIL	1	
LB3872	J0JBC0000117	COIL	1	
LB3873	J0JBC0000117	COIL	1	
LB3874	J0JBC0000117	COIL	1	
LB8001	J0JHC0000097	COIL	1	
LB8011	J0JHC0000097	COIL	1	
LB8255	ERJ3GEY0R00V	1/10W 0	1	
LB8256	ERJ3GEY0R00V	1/10W 0	1	
LB8257	ERJ3GEY0R00V	1/10W 0	1	
LB8258	ERJ3GEY0R00V	1/10W 0	1	
LB8259	ERJ3GEY0R00V	1/10W 0	1	
LB8260	ERJ3GEY0R00V	1/10W 0	1	
LB8261	ERJ2GE0R00X	1/16W 0	1	
LB8262	ERJ2GE0R00X	1/16W 0	1	
LB8264	ERJ3GEY0R00V	1/10W 0	1	
LB8265	ERJ3GEY0R00V	1/10W 0	1	
LB8301	J0JBC0000042	COIL	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
LB8302	J0JBC0000042	COIL	1	
LB8303	J0JBC0000042	COIL	1	
LB8304	J0JBC0000042	COIL	1	
LB8305	J0JBC0000042	COIL	1	
LB8421	ERJ2GE0R00X	1/16W 0	1	
LB8422	ERJ2GE0R00X	1/16W 0	1	
LB8423	ERJ2GE0R00X	1/16W 0	1	
LB8424	ERJ2GE0R00X	1/16W 0	1	
LB8431	ERJ2GE0R00X	1/16W 0	1	
LB8491	ERJ2GE0R00X	1/16W 0	1	
LB8530	J0JHC0000097	COIL	1	
LB8531	ERJ2GE0R00X	1/16W 0	1	
LB8551	J0JBC0000042	COIL	1	
LB8561	J0JBC0000042	COIL	1	
LB8571	J0JBC0000042	COIL	1	
LB8691	ERJ2GE0R00X	1/16W 0	1	
LB8692	ERJ2GE0R00X	1/16W 0	1	
LB8693	ERJ2GE0R00X	1/16W 0	1	
LB8694	ERJ2GE0R00X	1/16W 0	1	
LB8695	ERJ2GE0R00X	1/16W 0	1	
LB8696	ERJ2GE0R00X	1/16W 0	1	
LB8697	ERJ2GE0R00X	1/16W 0	1	
P1001	K2AA2B000011	AC JACK	1	⚠
PC1	RPGC0437	PACKING CASE	1	E
PC1	RPGC0438	PACKING CASE	1	EB
PC1	RPGC0439	PACKING CASE	1	EG
PC2	RPNC0113A-1	CUSHION(A)	1	
PC3	RPNC0113B-J	CUSHION(B)	1	
PC4	RPFC0071-B	POLYETHYLENE BAG	1	
PC5	RQLCA0251	STICKER	1	EB
PC5	RQLCA0251	STICKER	1	EB
PC5	RQLCA0252	STICKER	1	EG
PC5	RQLCA0252	STICKER	1	EG
PJ6101	K1MP06A00003	JACK	1	
PS8101	K1KY14AA0275	BTB2.0 JACK	1	
PS8301	K1KY20AA0275	BTB2.0 JACK	1	
Q1051	B3PBA0000241	TRANSISTOR	1	⚠
Q1115	B1DHDD000029	TRANSISTOR	1	
Q3801	B1ABDF000033	TRANSISTOR	1	
Q3821	XN0460100L	TRANSISTOR	1	
Q3851	B1ABDF000033	TRANSISTOR	1	
Q3852	B1ABDF000033	TRANSISTOR	1	
Q4422	B1ABDF000033	TRANSISTOR	1	
Q4423	B1ABDF000033	TRANSISTOR	1	
Q4751	B1ABDF000033	TRANSISTOR	1	
Q6085	B1ABGC000011	TRANSISTOR	1	
Q8251	B1ABDF000026	TRANSISTOR	1	
Q8252	B1ABDF000026	TRANSISTOR	1	
Q8421	B1ABDF000033	TRANSISTOR	1	

[illegible]	[illegible]	[illegible]	[illegible]	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
Q8531	B1CFHC000003	TRANSISTOR	1	
Q8532	B1CFHC000003	TRANSISTOR	1	
Q8533	B1ABDF000026	TRANSISTOR	1	
Q8551	2SD1819A0L	TRANSISTOR	1	
Q8552	2SB09700RL	TRANSISTOR	1	
Q8561	2SD1819A0L	TRANSISTOR	1	
Q8562	2SB09700RL	TRANSISTOR	1	
QR1115	B1GBCFNN0043	TRANSISTOR	1	
QR3501	B1GBCFLL0043	TRANSISTOR	1	
QR3502	B1GBCFLL0043	TRANSISTOR	1	
QR3821	B1GBCFLL0043	TRANSISTOR	1	
QR3822	B1GBCFLL0043	TRANSISTOR	1	
QR3823	B1GDCFJJ0041	TRANSISTOR	1	
QR4302	B1GDCFEJ0008	TRANSISTOR	1	
QR4306	B1GBCFJA0017	TRANSISTOR	1	
QR6001	B1GBCFJJ0041	TRANSISTOR	1	
QR6002	B1GDCFJJ0041	TRANSISTOR	1	
QR6003	B1GDCFJJ0041	TRANSISTOR	1	
QR6004	B1GBCFJJ0041	TRANSISTOR	1	
QR6101	B1GBCFEN0014	TRANSISTOR	1	
QR8420	B1GBCFJJ0040	TRANSISTOR	1	
R1001	ERDS2FJ474T	1/4W 470K	1	
R1002	ERDS2FJ474T	1/4W 470K	1	
R1031	ERG2SJ683P	2W 68K	1	
R1041	ERX12SJ4R7E	1/2W 4.7	1	
R1051	D1AA2002A005	1/4W 20K	1	
R1061	ERDS2TJ182T	1/4W 1.8K	1	
R1062	ERDS2TJ183T	1/4W 1.8K	1	
R1071	EROS2THF4301	1/4W 4.3K	1	
R1081	D1AA3301A006	1/4W 3.3K	1	
R1083	D1AA2702A005	1/4W 27K	1	
R1084	EROS2THF2701	1/4W 2.7K	1	
R1101	ERDS2TJ181T	1/4W 180	1	
R1102	D1AA4701A006	1/4W 4.7K	1	
R1103	D1AA4701A006	1/4W 4.7K	1	
R1104	ERJ6GEYJ102V	1/10W 1K	1	
R1105	ERJ3GEYJ222V	1/10W 2.2K	1	
R1106	ERJ3GEYJ102V	1/10W 1K	1	
R1107	ERJ3GEYJ103V	1/10W 10K	1	
R1115	ERJ3GEYJ104V	1/10W 100K	1	
R1116	ERJ3GEYJ102V	1/10W 1K	1	
R3501	ERJ3GEYJ223V	1/10W 22K	1	
R3511	J0JHC0000097	COIL	1	
R3512	J0JHC0000097	COIL	1	
R3513	J0JHC0000097	COIL	1	
R3514	J0JHC0000097	COIL	1	
R3515	ERJ3GEY0R00V	1/10W 0	1	
R3521	ERJ3GEYJ223V	1/10W 22K	1	
R3533	ERJ3GEYF750V	1/10W 75	1	
R3534	ERJ3GEYF750V	1/10W 75	1	
R3535	ERJ3GEYJ750V	1/10W 75	1	
R3536	ERJ3GEYJ750V	1/10W 75	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R3821	ERJ3GEYJ223V	1/10W 22K	1	
R3822	ERJ3GEYJ223V	1/10W 22K	1	
R3823	ERJ3GEYJ472V	1/10W 4.7K	1	
R3824	ERJ3GEYJ223V	1/10W 22K	1	
R3825	ERJ3GEYJ472V	1/10W 4.7K	1	
R3826	ERJ3GEYJ183V	1/10W 18K	1	
R3827	ERJ3GEYJ223V	1/10W 22K	1	
R3828	ERJ3GEYJ471V	1/10W 470	1	
R3851	ERJ3GEYJ681V	1/10W 680	1	
R3852	ERJ3GEYJ821V	1/10W 820	1	
R3853	ERJ3GEYJ821V	1/10W 820	1	
R3854	ERJ3GEYJ681V	1/10W 680	1	
R3871	ERJ3GEYF750V	1/10W 75	1	
R3872	ERJ3GEYF750V	1/10W 75	1	
R3873	ERJ3GEYF750V	1/10W 75	1	
R3874	ERJ3GEYF750V	1/10W 75	1	
R3875	ERJ3GEYJ221V	1/10W 220	1	
R3876	ERJ3GEYJ221V	1/10W 220	1	
R3877	ERJ3GEYJ750V	1/10W 75	1	
R3878	ERJ3GEYJ750V	1/10W 75	1	
R4301	ERJ3GEYJ271V	1/10W 270	1	
R4304	ERJ3GEYJ222V	1/10W 2.2K	1	
R4309	ERJ3GEYJ223V	1/10W 22K	1	
R4320	ERJ3GEYJ222V	1/10W 2.2K	1	
R4331	D0HB562ZA002	1/16W 5.6K	1	
R4332	D0HB562ZA002	1/16W 5.6K	1	
R4355	D0HB153ZA002	1/10W 15K	1	
R4356	D0HB153ZA002	1/10W 15K	1	
R4422	ERJ3GEYJ473V	1/10W 47K	1	
R4423	ERJ3GEYJ473V	1/10W 47K	1	
R4428	ERJ3GEYJ681V	1/10W 680	1	
R4429	ERJ3GEYJ681V	1/10W 680	1	
R4451	ERJ3GEYJ821V	1/10W 820	1	
R4452	ERJ3GEYJ821V	1/10W 820	1	
R4459	ERJ3GEYJ221V	1/10W 220	1	
R4460	ERJ3GEYJ221V	1/10W 220	1	
R4751	ERJ3GEYJ102V	1/10W 1K	1	
R4752	ERJ3GEYJ102V	1/10W 1K	1	
R4753	ERJ3GEYJ102V	1/10W 1K	1	
R4754	ERJ3GEYJ221V	1/10W 220	1	
R4755	ERJ3GEYJ750V	1/10W 75	1	
R4756	ERJ3GEYJ103V	1/10W 10K	1	
R6001	ERJ3GEYJ104V	1/10W 100K	1	
R6002	ERJ3GEYJ332V	1/10W 3.3K	1	
R6081	ERQ14AJW271E	1/4W 270	1	
R6085	ERJ3GEYJ822V	1/10W 8.2K	1	
R6086	ERJ3GEYJ104V	1/10W 100K	1	
R6101	ERJ3GEYJ331V	1/10W 330	1	
R6102	ERJ3GEYJ331V	1/10W 330	1	
R6104	ERJ3GEYJ103V	1/10W 10K	1	
R8001	ERJ2GEJ103X	1/16W 10K	1	
R8002	ERJ2GEJ473X	1/16W 47K	1	
R8003	ERJ2GEJ103X	1/16W 10K	1	
R8004	ERJ2GEJ103X	1/16W 10K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R8009	ERJ2GEJ103X	1/16W 10K	1	
R8011	ERJ2GEJ220X	1/16W 22	1	
R8012	ERJ2GEJ220X	1/16W 22	1	
R8013	ERJ2GEJ220X	1/16W 22	1	
R8014	ERJ2GEJ103X	1/16W 10K	1	
R8015	ERJ2GEJ103X	1/16W 10K	1	
R8016	ERJ2GEJ103X	1/16W 10K	1	
R8017	ERJ2GEJ103X	1/16W 10K	1	
R8018	ERJ2GEJ103X	1/16W 10K	1	
R8041	ERJ2GEJ330X	1/16W 33	1	
R8153	ERJ2RHD102X	1/16W 1K	1	
R8211	ERJ2GEJ103X	1/16W 10K	1	
R8221	ERJ2GEJ822X	1/16W 8.2K	1	
R8225	ERJ2GEJ822X	1/16W 8.2K	1	
R8230	ERJ2GEJ222X	1/16W 2.2K	1	
R8231	ERJ2GEJ752X	1/16W 7.5K	1	
R8232	ERJ2GEJ752X	1/16W 7.5K	1	
R8251	ERJ2GEJ103X	1/16W 10K	1	
R8252	ERJ2GEJ152X	1/16W 1.5K	1	
R8253	ERJ2GEJ103X	1/16W 10K	1	
R8254	ERJ2GEJ104X	1/16W 100K	1	
R8261	ERJ2GEJ203X	1/16W 20K	1	
R8262	ERJ2GEJ153X	1/16W 15K	1	
R8263	ERJ2GEJ203X	1/16W 20K	1	
R8264	ERJ2GEJ153X	1/16W 15K	1	
R8311	ERJ2RHD242X	1/16W 2.4K	1	
R8312	ERJ2RHD102X	1/16W 1K	1	
R8313	ERJ2RHD273X	1/16W 27K	1	
R8314	ERJ2GEJ222X	1/16W 2.2K	1	
R8321	ERJ3RBD201V	1/16W 200	1	
R8322	ERJ3GEY0R00V	1/10W 0	1	
R8325	ERJ3RBD201V	1/16W 200	1	
R8326	ERJ3GEY0R00V	1/10W 0	1	
R8331	ERJ3RBD201V	1/16W 200	1	
R8332	ERJ3GEY0R00V	1/10W 0	1	
R8335	ERJ3RBD201V	1/16W 200	1	
R8341	ERJ3RBD201V	1/16W 200	1	
R8401	ERJ2GEJ101X	1/16W 100	1	
R8403	ERJ2GEJ101X	1/16W 100	1	
R8420	ERJ2GEJ222X	1/16W 2.2K	1	
R8421	ERJ2GE0R00X	1/16W 0	1	
R8422	ERJ2GEJ103X	1/16W 10K	1	
R8423	ERJ2GE0R00X	1/16W 0	1	
R8424	ERJ2GEJ103X	1/16W 10K	1	
R8425	ERJ2GEJ103X	1/16W 10K	1	
R8430	ERJ3GEYJ102V	1/10W 1K	1	
R8531	ERJ2GEJ152X	1/16W 1.5K	1	
R8532	ERJ2GEJ222X	1/16W 2.2K	1	
R8533	ERJ2GE0R00X	1/16W 0	1	
R8534	ERJ2GEJ103X	1/16W 10K	1	
R8535	ERJ2GEJ103X	1/16W 10K	1	
R8537	ERJ3GEY0R00V	1/10W 0	1	
R8538	ERJ3GEY0R00V	1/10W 0	1	
R8541	ERJ2GEJ153X	1/16W 15K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R8551	ERJ2GE0R00X	1/16W 0	1	
R8552	ERJ2GEJ102X	1/16W 1K	1	
R8553	ERJ2GEJ102X	1/16W 1K	1	
R8554	ERJ2GEJ100X	1/16W 10	1	
R8555	ERJ2GEJ2R2X	1/16W 2.2	1	
R8556	ERJ3GEYJ560V	1/10W 56	1	
R8557	ERJ3GEYJ510V	1/10W 51	1	
R8558	ERJ2GEJ473X	1/16W 47K	1	
R8559	ERJ2GEJ153X	1/16W 15K	1	
R8561	ERJ2GE0R00X	1/16W 0	1	
R8562	ERJ2GEJ102X	1/16W 1K	1	
R8563	ERJ2GEJ102X	1/16W 1K	1	
R8564	ERJ2GEJ220X	1/16W 22	1	
R8565	ERJ2GEJ2R2X	1/16W 2.2	1	
R8566	ERJ3GEYJ560V	1/10W 56	1	
R8567	ERJ3GEYJ510V	1/10W 51	1	
R8568	ERJ2GEJ473X	1/16W 47K	1	
R8601	ERJ2GEJ104X	1/16W 100K	1	
R8621	ERJ2GEJ105X	1/16W 1M	1	
R8622	ERJ2RHD561X	1/16W 560	1	
R8636	ERJ2GEJ104X	1/16W 100K	1	
R8701	ERJ2GEJ822X	1/16W 8.2K	1	
R8702	ERJ2GEJ103X	1/16W 10K	1	
R8704	ERJ2GEJ103X	1/16W 10K	1	
R8706	ERJ2GEJ103X	1/16W 10K	1	
R8709	ERJ2GEJ103X	1/16W 10K	1	
R8711	ERJ2GEJ103X	1/16W 10K	1	
R8712	ERJ2GEJ222X	1/16W 2.2K	1	
RX8011	D1H88204A024	RESISTOR-RESISTOR	1	
RX8012	D1H88204A024	RESISTOR-RESISTOR	1	
RX8013	D1H88204A024	RESISTOR-RESISTOR	1	
RX8014	D1H88204A024	RESISTOR-RESISTOR	1	
RX8015	D1H88204A024	RESISTOR-RESISTOR	1	
RX8016	D1H88204A024	RESISTOR-RESISTOR	1	
RX8017	D1H88204A024	RESISTOR-RESISTOR	1	
RX8018	D1H422020001	RESISTOR-RESISTOR	1	
RX8019	D1H422020001	RESISTOR-RESISTOR	1	
RX8020	D1H422020001	RESISTOR-RESISTOR	1	
RX8031	D1H447220001	RESISTOR-RESISTOR	1	
RX8032	D1H447220001	RESISTOR-RESISTOR	1	
RX8531	D1H456020001	RESISTOR-RESISTOR	1	
RX8532	D1H85604A024	RESISTOR-RESISTOR	1	
RX8533	D1H456020001	RESISTOR-RESISTOR	1	
S2601	K0L1BA000078	SWITCH	1	
S2602	K0L1BA000078	SWITCH	1	
S6151	EVQ11G05R	SWITCH	1	
S6152	EVQ11G05R	SWITCH	1	
S6161	EVQ11G05R	SWITCH	1	
T1021	G4D2A0000265	TRANSFORMER	1	⚠
VA1002	ERZVA5Z471	TRANSIENT/SURGE ABSORBER	1	⚠

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
W300	ERJ3GEY0R00V	1/20W 0	1	
W301	ERJ3GEY0R00V	1/20W 0	1	
W302	ERJ3GEY0R00V	1/20W 0	1	
W303	ERJ3GEY0R00V	1/20W 0	1	
W304	ERJ3GEY0R00V	1/20W 0	1	
W305	ERJ3GEY0R00V	1/20W 0	1	
W306	ERJ3GEY0R00V	1/20W 0	1	
W307	ERJ3GEY0R00V	1/20W 0	1	
X8621	H0J270500080	CRYSTAL OSCILLATOR	1	
ZA1001	EYF52BCY	FUSE HOLDER	1	
ZA1002	EYF52BCY	FUSE HOLDER	1	
ZA1111	RMCC0001-1	EARTH SPRING	1	
ZA1112	K4CZ01000027	TERMINAL	1	
ZA4751	K4CZ01000027	TERMINAL	1	

19. SCHEMATIC DIAGRAM FOR PRINTING WITH A4

FLE060200005JA

IC8001-131,138
0.92Vp-p(20usec./div.)

IC8001-139
0.6Vp-p(20usec./div.)

IC8001-129
0.49Vp-p(20usec./div.)

IC8001-130
0.49Vp-p(20usec./div.)

IC8001
(DV4.1)

OPTICAL
PICKUP
UNIT

95 RFINN
96 RFINP

DAC5OUT 139 C
DAC4OUT 138 Y
DAC1OUT 131 Y/PY/G
DAC2OUT 130 CB/PB/B
DAC3OUT 129 CR/PR/R

IC8651
(8M FLASH ROM)

29 DQ0
31
33
35
38
40
42
44
30
32
34
36
39
41
43
45 DQ15

DATA

ADDRESS
A0 25
A7 18
A8 8
A15 1

212 A0
42
41
40
39
38
37
36 A7
29 A8
28
27
26
25
24
23
22 A15

ADDRESS

ADDRESS
A16 48
A17 17
A18 16

21 A16
35 A17
34 A18

ADDRESS

XCE 26
XWE 11
XOE 28

214 NEXOE
31 NEXWE
213 NEXCE

215 EXDT0
1
3
7
9
11
13
17
216
2
4
8
10
12
14
18 EXDT15

DATA

MEMORY
ADDRESS
12bit

MA0 201
MA1 203
MA2 207
MA3 209
MA4 208
MA5 206
MA6 202
MA7 200
MA8 198
MA9 194
MA10 199
DQM3 192

MEMORY
DATA
16bit

MDQ0 160
MDQ1 162
MDQ2 164
MDQ3 168
MDQ4 170
MDQ5 172
MDQ6 176
MDQ7 178
MDQ8 177
MDQ9 175
MDQ10 171
MDQ11 169
MDQ12 167
MDQ13 163
MDQ14 161
MDQ15 159

NCSM 190
NCAS 188
NRAS 189
NWE 181
MCK 183
MCK1 185
NRST 70

FROM IC8601-1PIN
FROM IC8606-1PIN

IC8051
(64M SDRAM)

23 A0
24 A1
25 A2
26 A3
29 A4
30 A5
31 A6
32 A7
33 A8
34 A9
22 A10
35 A11

MEMORY
ADDRESS
12bit

2 DQ0
4 DQ1
5 DQ2
7 DQ3
8 DQ4
10 DQ5
11 DQ6
13 DQ7
42 DQ8
44 DQ9
45 DQ10
47 DQ11
48 DQ12
50 DQ13
51 DQ14
53 DQ15

MEMORY
DATA
16bit

19 CS
17 CAS
18 RAS
16 WE
38 CLK

DVD-S1E/EB/EG
VIDEO BLOCK DIAGRAM

VIDEO MAIN SIGNAL

IC3501-11
1.2Vp-p(20usec./div.)

IC3501-12
1.2Vp-p(20usec./div.)

IC3501-15
2.0Vp-p(20usec./div.)

IC3501-13,14
2.0Vp-p(20usec./div.)

IC3501
(VIDEO DRIVE)

BIAS
CIN
4dB
LPF
6.75MHz
2dB
COUT
CVBS OUT
-6dB
8dB
CLAMP
YIN
YOUT
MUTE
1.4V
CLAMP
CYIN
13.5MHz
CYOUT
BIAS
CBIN
CBOUT
BIAS
CRIN
CROUT

JK4401
VIDEO OUT

IC3502

JK4401
SCART OUT
Y
PB
PR

RGBH-MCMT
FROM IC8001-120PIN

IC3811
(VIDEO DRIVE)

CIN
BIAS
6dB
6MHz LPF
75Ω
COUT
CVIN
CLAMP
CVOUT
CVOUT SAG
YIN
YOUT
YOUT SAG
SEL
PY/G IN
12MHz LPF
PY/G OUT
PY/G OUT SAG
PB/B IN
PB/B OUT
PB/B OUT SAG
PR/R IN
PR/R OUT
PR/R OUT SAG
SEL

IC3802
IN1
IN2
OUT
SW

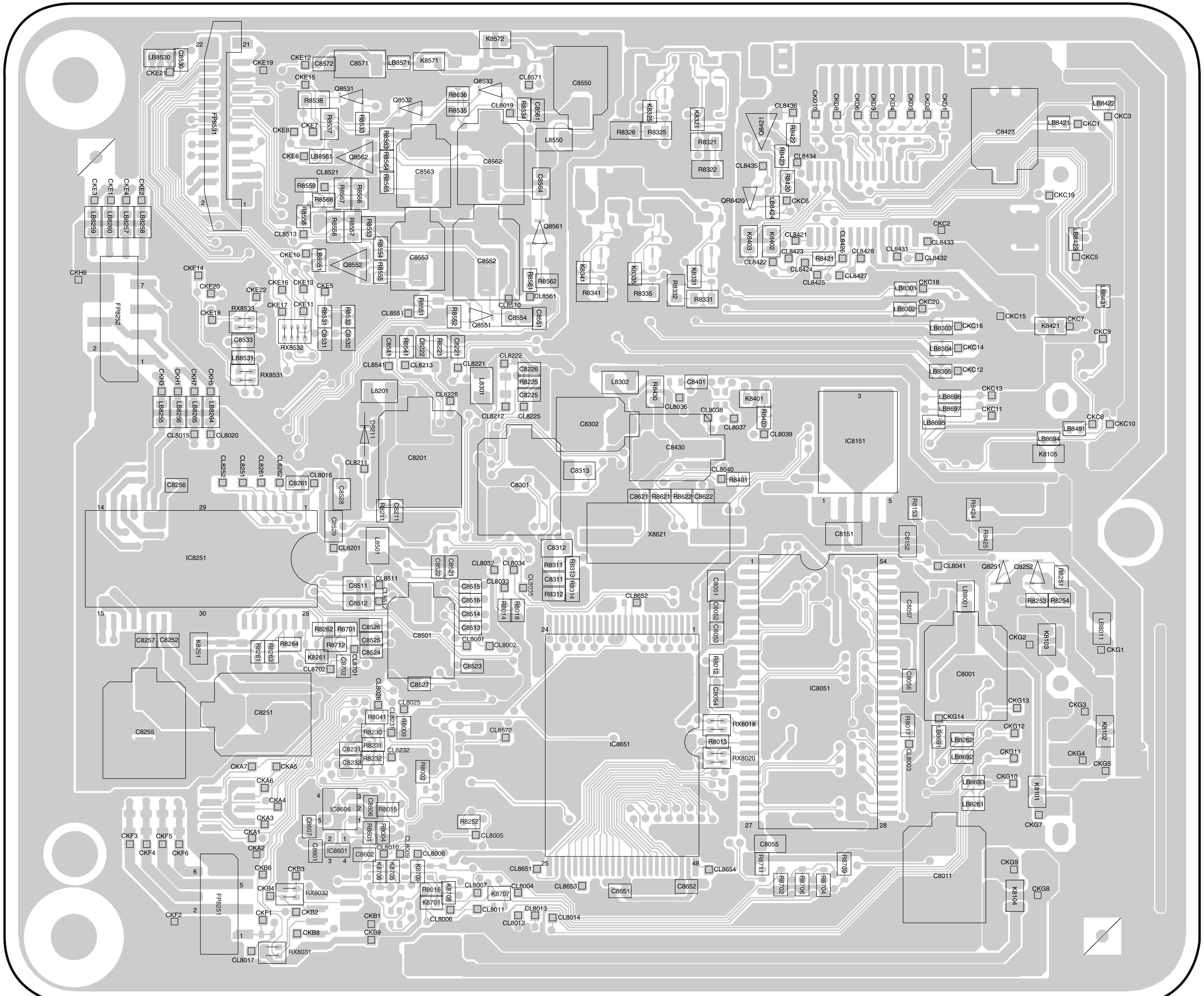
RED I/O
V-OUT
GREEN I/O
BLUE I/O

JK3871

FROM IC8001-57PIN

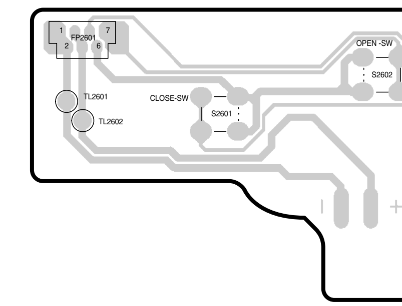
DVD-S1E/EB/EG
VIDEO BLOCK DIAGRAM

MODULE P.C.B. (1/2)

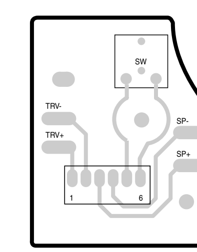


(COMPONENT SIDE)

LOADING MOTOR P.C.B.

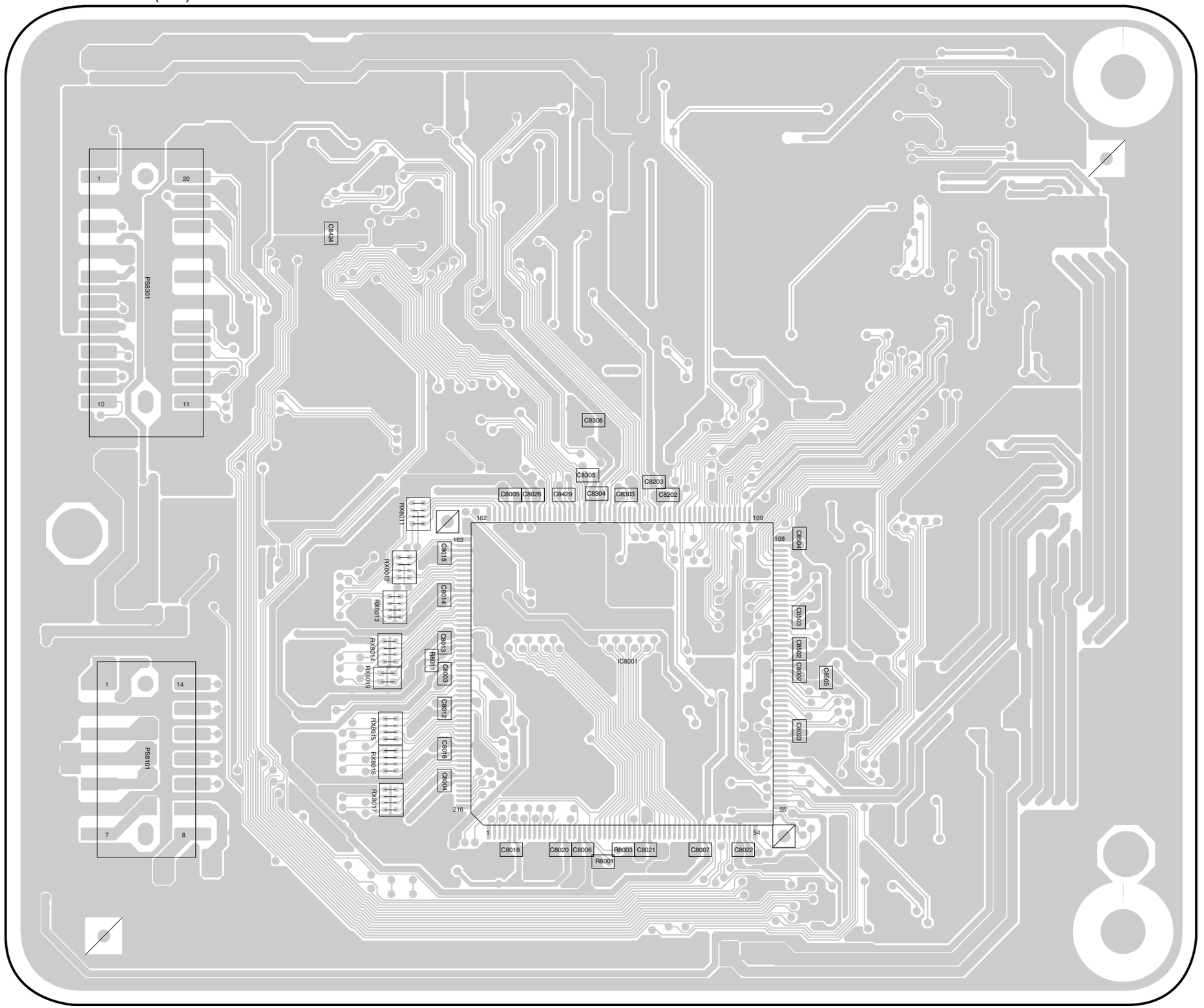


TRV AND SP MOTOR P.C.B.



DVD-S1/E/EB/EG
MODULE P.C.B.(1/2)(VEP79120F)
LOADING MOTOR P.C.B.(VEP70114A-1)

MODULE P.C.B. (2/2)



(FOIL SIDE)

DVD-S1E/EB/EG
MODULE P.C.B.(2/2)(VEP79120F)

MODULE P.C.B.

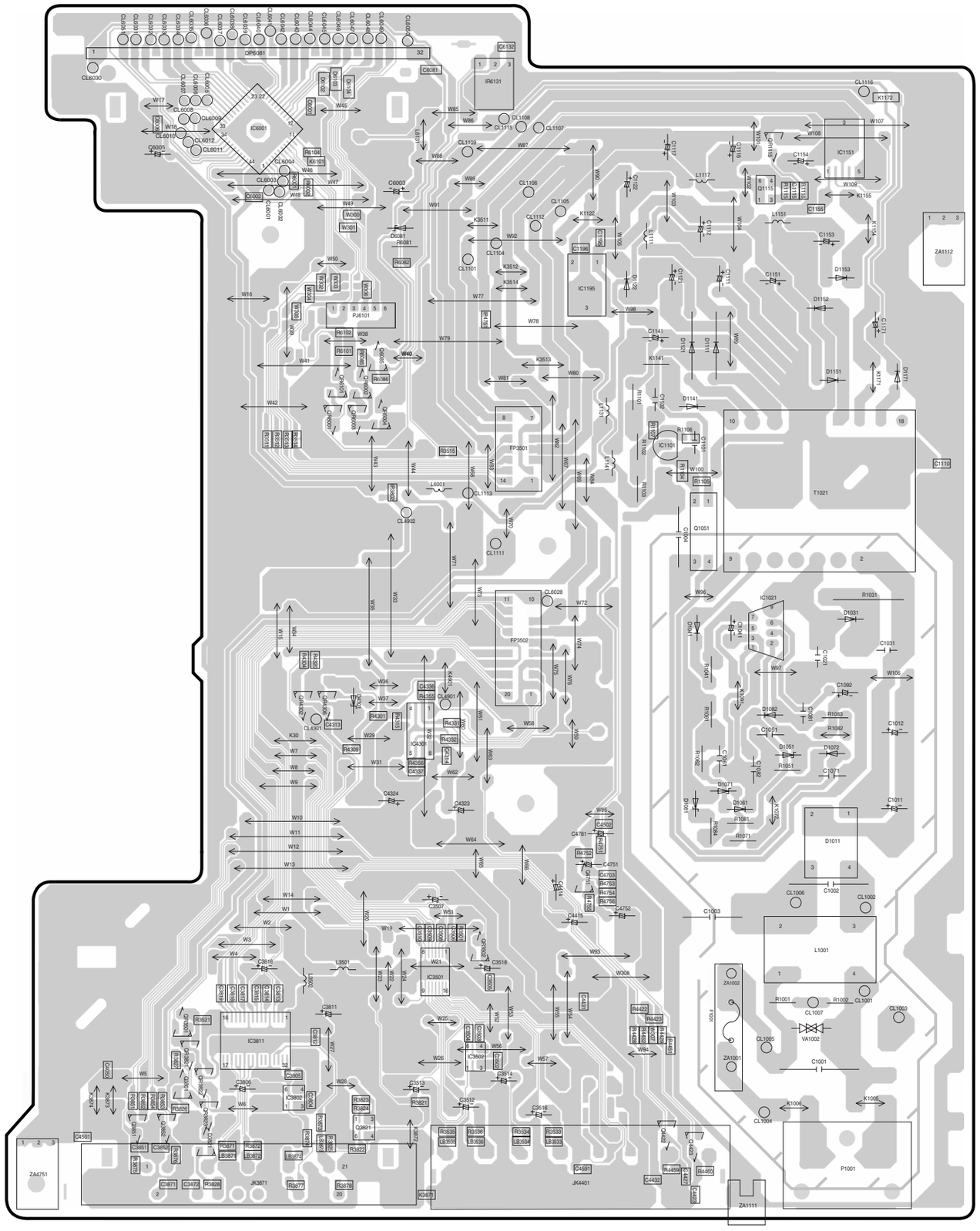
Transistor		
Q8251	C-6	C
Q8252	C-6	C
Q8421	F-5	C
Q8531	F-3	C
Q8532	F-3	C
Q8533	F-3	C
Q8551	E-3	C
Q8552	E-3	C
Q8561	E-4	C
Q8562	E-3	C
Transistor-resistor		
QR8420	E-5	C
Inntegrated Circuit		
IC8001	C-4	F
IC8051	B-5	C
IC8151	D-5	C
IC8251	C-2	C
IC8601	B-3	C
IC8606	B-3	C
IC8651	B-4	C
Test Point		
CKA1	B-2	C
CKA2	B-2	C
CKA3	B-2	C
CKA4	B-2	C
CKA5	B-2	C
CKA6	B-2	C
CKA7	B-2	C
CKB1	A-3	C
CKB2	A-2	C
CKB3	A-2	C
CKB4	A-2	C
CKB6	A-2	C
CKB8	A-2	C
CKB9	A-3	C
CKC1	F-7	C
CKC2	E-6	C
CKC3	F-7	C
CKC5	E-7	C
CKC6	E-5	C
CKC7	E-7	C
CKC8	D-7	C
CKC9	D-7	C
CKC10	D-7	C
CKC11	D-6	C
CKC12	D-6	C
CKC13	D-6	C
CKC14	D-6	C
CKC15	E-6	C
CKC16	E-6	C
CKC18	E-6	C
CKC19	E-6	C
CKC20	E-6	C
CKD1	F-6	C
CKD2	F-6	C
CKD3	F-6	C
CKD4	F-6	C
CKD6	F-5	C
CKD8	F-5	C
CKD9	F-5	C
CKD10	F-5	C
CKE1	E-1	C
CKE2	E-1	C
CKE3	E-1	C
CKE4	E-1	C
CKE5	E-2	C
CKE6	E-2	C
CKE7	F-2	C
CKE8	F-2	C
CKE10	E-2	C
CKE11	E-2	C
CKE12	F-2	C
CKE13	E-2	C
CKE14	E-2	C
CKE15	F-2	C
CKE16	E-2	C
CKE17	E-2	C
CKE18	E-2	C
CKE19	F-2	C
CKE20	E-2	C
CKE21	F-2	C
CKE22	E-2	C
CKF1	A-2	C
CKF2	A-2	C
CKF3	B-1	C
CKF4	B-1	C
CKF5	B-2	C
CKF6	B-2	C
CKG1	C-7	C
CKG2	C-6	C
CKG3	B-7	C
CKG4	B-7	C
CKG5	B-7	C
CKG7	B-6	C
CKG8	A-6	C
CKG9	B-6	C
CKG10	B-6	C

ADDRESS INFORMATION
C.....COMPONENT SIDE
F.....FOIL SIDE

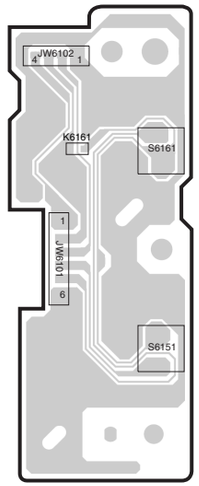
MODULE P.C.B.

Test Point		
CKG11	B-6	C
CKG12	B-6	C
CKG13	B-6	C
CKG14	B-6	C
CKH1	D-2	C
CKH3	D-2	C
CKH5	D-2	C
CKH6	E-1	C
CKH7	D-2	C
CL8001	C-3	C
CL8002	C-3	C
CL8003	B-6	C
CL8004	A-4	C
CL8005	B-3	C
CL8006	A-3	C
CL8007	A-3	C
CL8008	B-3	C
CL8009	B-3	C
CL8010	B-3	C
CL8011	A-3	C
CL8012	A-4	C
CL8013	A-4	C
CL8014	A-4	C
CL8015	D-2	C
CL8016	D-2	C
CL8017	A-2	C
CL8019	F-3	C
CL8020	D-2	C
CL8025	B-3	C
CL8026	B-3	C
CL8032	C-3	C
CL8033	C-3	C
CL8034	C-3	C
CL8035	C-4	C
CL8036	D-4	C
CL8037	D-5	C
CL8038	D-5	C
CL8039	D-5	C
CL8040	D-5	C
CL8041	C-6	C
CL8201	C-2	C
CL8211	D-3	C
CL8212	D-4	C
CL8213	D-3	C
CL8221	D-3	C
CL8222	D-3	C
CL8225	D-4	C
CL8226	D-3	C
CL8231	B-3	C
CL8232	B-3	C
CL8251	D-2	C
CL8252	D-2	C
CL8261	D-2	C
CL8262	D-2	C
CL8421	E-5	C
CL8422	E-5	C
CL8423	E-5	C
CL8424	E-5	C
CL8425	E-5	C
CL8426	E-5	C
CL8427	E-5	C
CL8428	E-5	C
CL8431	E-6	C
CL8432	E-6	C
CL8433	E-6	C
CL8434	E-5	C
CL8435	E-5	C
CL8436	F-5	C
CL8510	E-3	C
CL8511	C-3	C
CL8512	C-3	C
CL8513	E-2	C
CL8521	E-2	C
CL8541	D-3	C
CL8551	E-3	C
CL8561	E-4	C
CL8571	F-4	C
CL8572	B-3	C
CL8651	B-4	C
CL8652	C-4	C
CL8653	A-4	C
CL8654	B-5	C
CL8701	C-3	C
CL8702	C-2	C
Connector		
FP8251	A-2	C
FP8252	E-1	C
FP8531	F-2	C
PS8101	E-1	F
PS8301	B-1	F

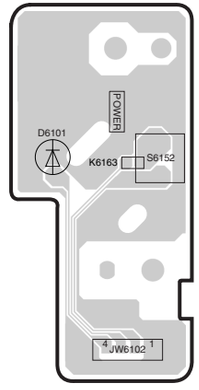
MOTHER P.C.B.



OPERATION P.C.B.



POWER SW P.C.B.



DVD-S1E/EB/EG
MOTHER P.C.B.(VEP76138A)
OPERATION P.C.B.(VEP70141B)
POWER SW P.C.B.(VEP70142B)

MOTHER P.C.B.

Transistor	
Q1051	D-4
Q1115	E-4
Q3801	A-2
Q3821	A-2
Q3851	A-1
Q3852	A-1
Q4422	A-4
Q4423	A-4
Q4751	B-3
Q6085	E-2

Transistor-resistor	
QR1115	F-4
QR3501	B-2
QR3502	B-3
QR3821	A-2
QR3822	A-2
QR3823	A-2
QR4302	C-2
QR4306	C-2
QR6001	D-2
QR6002	E-2
QR6003	D-2
QR6004	D-2
QR6101	E-2

Inntegrated Circuit	
IC1021	D-4
IC1101	D-4
IC1151	F-5
IC1195	E-3
IC3501	B-3
IC3502	A-3
IC3802	A-2
IC3811	B-2
IC4301	C-3
IC6001	F-2

Test Point	
CL1001	B-5
CL1002	B-5
CL1003	B-5
CL1004	B-4
CL1005	B-4
CL1006	B-4
CL1007	B-4
CL1101	E-3
CL1104	E-3
CL1105	E-3
CL1106	F-3
CL1107	F-3
CL1108	F-3
CL1109	F-3
CL1111	D-3
CL1112	E-3
CL1113	D-3
CL1115	F-3
CL1116	F-5
CL4301	C-2
CL4901	C-3
CL4902	D-3
CL6001	F-2
CL6002	F-2
CL6003	F-2
CL6004	F-2
CL6005	F-2
CL6006	F-2
CL6007	F-2
CL6008	F-2
CL6009	F-2
CL6010	F-1
CL6011	F-2
CL6012	F-2
CL6028	D-3
CL6030	F-1
CL6031	F-1
CL6032	F-1
CL6033	F-1
CL6034	F-1
CL6035	F-2
CL6036	F-2
CL6037	F-2
CL6038	F-2
CL6039	F-2
CL6040	F-2
CL6041	F-2
CL6042	F-2
CL6043	F-2
CL6044	F-2
CL6045	F-2
CL6046	F-2
CL6047	F-2
CL6048	F-2
CL6049	F-2
CL6050	F-3
CL6051	F-1

Connector	
FP3501	D-3
FP3502	C-3
P1001	A-5
PJ6101	E-2
JK3871	A-2
JK4401	A-3

Transformer	
T1021	D-4

ADDRESS INFORMATION

VIDEO MAIN SIGNAL　AUDIO MAIN SIGNAL　RF SIGNAL

B

FLH+
FLH–
NSW-12V
NPOFF_L
ADGND
DGND
VGND
AGND
MGND
NSW+12V
A+5V
D+5V
NSW+3.3V
NSW+2.7V
M+9V

Q6085 B1ABGC000011
R6086 100K
R6085 8.2K
D6081 MAZ40910LF
R6081 270
QR6002 B1GDCFJJ0041
QR6004 B1GBCFJJ0041
QR6003 B1GDCFJJ0041
L6001 GOC101JA0019
NSW-12V_L6001
NSW-12V_L6001
C6006 0.01
C6005 50V 10
CL6028
QR6001 B1GBCFJJ0041
QR6101 B1GBCFEN0014

DP6081 A2BA00000229
CL6030
CL6050
C6081 0.01

IC6001 COHBB0000057
C6002 0.1
C6001 0.1
R6001 100K
R6002 3.3K

R6101 330
R6102 330
K6101 0
R6104 10K

POWER-SW P.C.B.
D6101 LNJ201LPQJA
JW6102 REZ1772
STBYLED
K2
KS1
DGND
K6163 0
POWER_SW
S6152 EVQ11G05R

OPERATION P.C.B.
JW6102 REZ1772
JW6101 REZ1732
PLAY
OPEN/CLOSE
S6151 EVQ11G05R
S6161 EVQ11G05R
K6161 0

TO OPERATION P.C.B.
JW6101
PJ6101
K1MP06A00003
D6104 MA2J11100L KS1
D6102 MA2J11100L KS2
D6103 MA2J11100L KS3

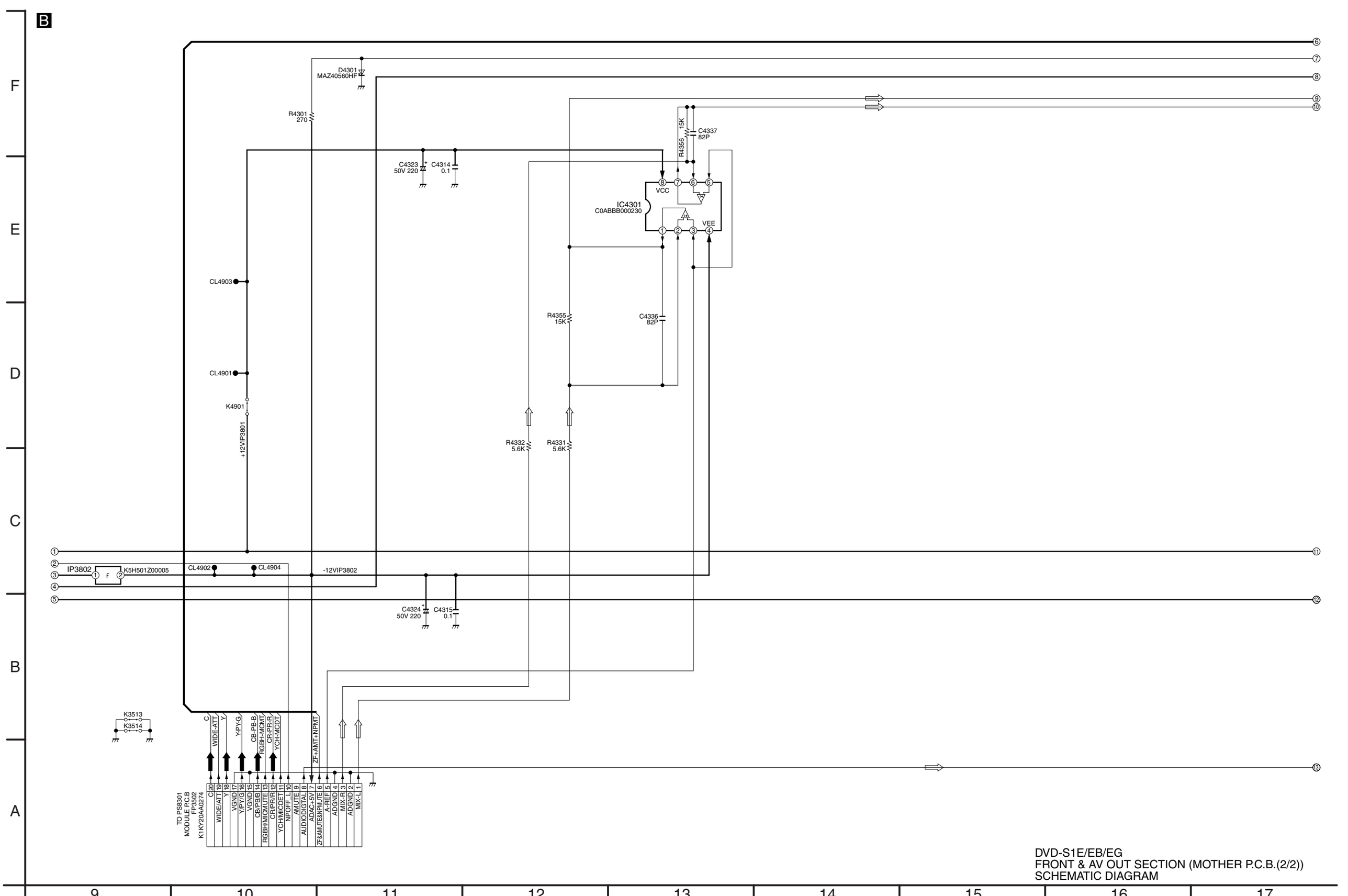
C6003 6.3V 100
IR6131 B3RAD0000115
L6131
C6132 0.1
ROUT
VCC
GND
REMOCON
DIN
DOUT
CLK
STB

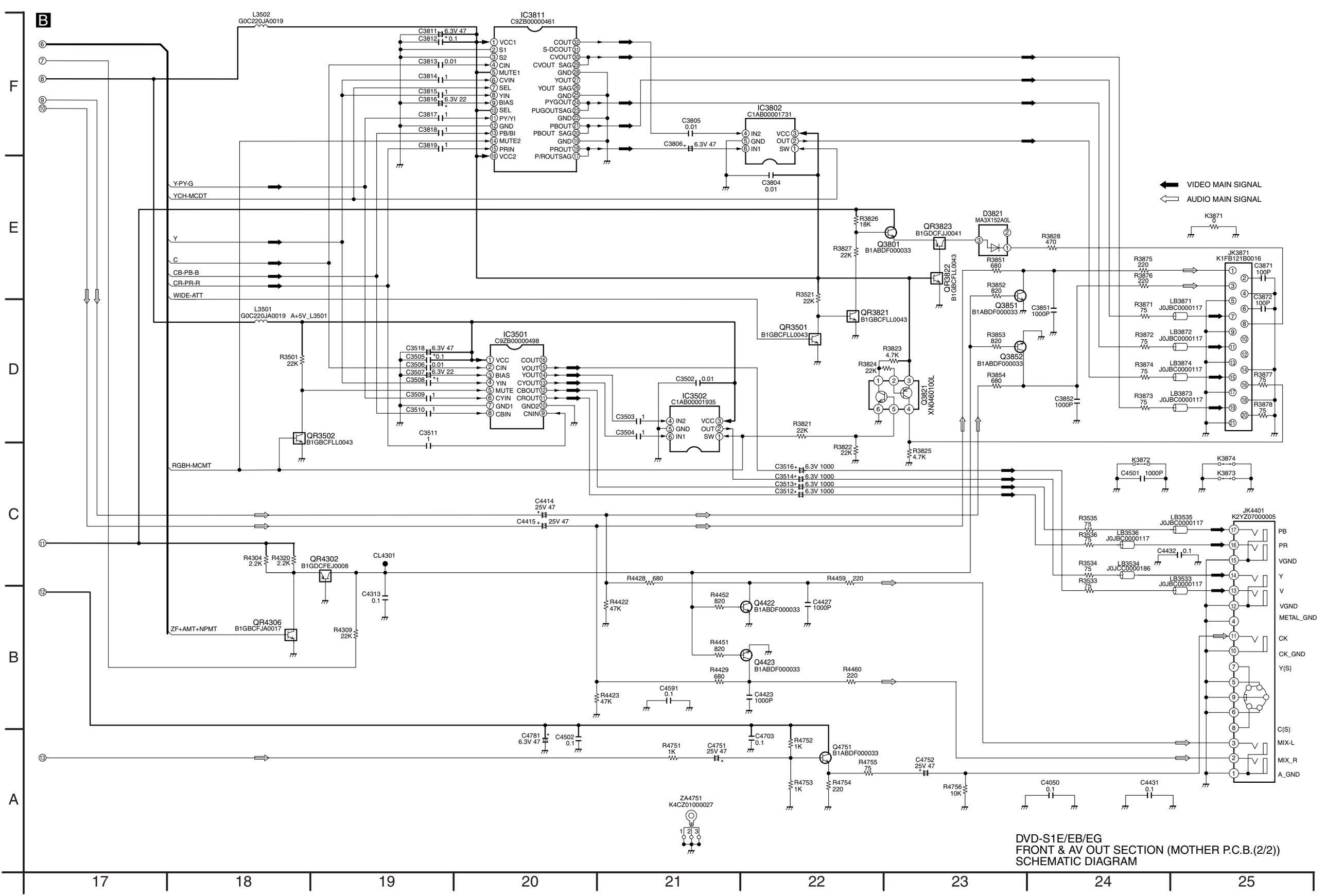
IP4751 K5H252Z00003
D+5V_IP4751

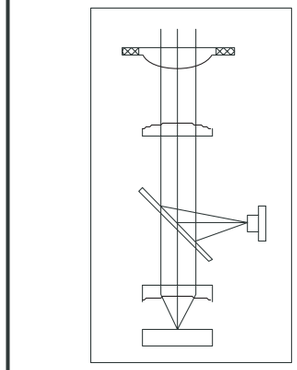
TO PS8101
MODULE P.C.B.
FP3501
K1KY14AA0274
R3511
R3512
R3513
R3514
R3515
K3511
K3512

A:PO(POWER SUPPLY SECTION)
B:F/AV(FRONT & AV OUT SECTION)

DVD-S1E/EB/EG
FRONT & AV OUT SECTION (MOTHER P.C.B.(2/2))
SCHEMATIC DIAGRAM


B
F
E
D
C
B
A
D4301
MAZ40560HF
R4301
270
C4323
50V 220
C4314
0.1
R4356
15K
C4337
82P
IC4301
C0ABBB000230
VCC
VEE
CL4903
CL4901
K4901
+12VIP3801
R4355
15K
C4336
82P
R4332
5.6K
R4331
5.6K
IP3802
K5H501Z00005
CL4902
CL4904
-12VIP3802
C4324
50V 220
C4315
0.1
K3513
K3514
C
WIDE-ATT
Y
Y-PY-G
CB-PB-B
RGBH-MCMT
CR-PR-R
YCH-MCDT
ZF+AMT+NPMT
TO PS8301
MODULE P.C.B
FP3502
K1KY20AA0274
C 20
WIDE/ATT 19
Y 18
VGND 17
Y/PY/G 16
VGND 15
CB/PB/B 14
RGBH/MIC/MUTE 13
CR/PR/R 12
YCH/MICDET 11
NPOFF_L 10
AMUTE 9
AUDIODIGITAL 8
ADAC+5V 7
ZF&AMUTE&NPMUTE 6
A-REF 5
ADGND 4
MIX-R 3
ADGND 2
MIX-L 1
DVD-S1E/EB/EG
FRONT & AV OUT SECTION (MOTHER P.C.B.(2/2))
SCHEMATIC DIAGRAM
9
10
11
12
13
14
15
16
17


VIDEO MAIN SIGNAL
AUDIO MAIN SIGNAL
IC3811 C9ZB00000461
IC3802 C1AB00001731
IC3501 C9ZB00000498
IC3502 C1AB00001935
L3502 G0C220JA0019
L3501 G0C220JA0019
A+5V_L3501
Y-PY-G
YCH-MCDT
Y
C
CB-PB-B
CR-PR-R
WIDE-ATT
RGBH-MCMT
ZF+AMT+NPMT
QR3821 B1GBCFLL0043
QR3822 B1GBCFLL0043
QR3823 B1GDCFJJ0041
QR3501 B1GBCFLL0043
QR3502 B1GBCFLL0043
QR4302 B1GDCFEJ0008
QR4306 B1GBCFJA0017
Q3801 B1ABDF000033
Q3851 B1ABDF000033
Q3852 B1ABDF000033
Q4422 B1ABDF000033
Q4423 B1ABDF000033
Q4751 B1ABDF000033
Q3821 XN0460100L
D3821 MA3X152A0L
JK3871 K1FB121B0016
JK4401 K2YZ07000005
ZA4751 K4CZ01000027
PB
PR
VGND
Y
V
VGND
METAL_GND
CK
CK_GND
Y{S}
C{S}
MIX-L
MIX_R
A_GND
DVD-S1E/EB/EG
FRONT & AV OUT SECTION (MOTHER P.C.B.(2/2))
SCHEMATIC DIAGRAM



OPTICAL PICKUP UNIT

FP8531

22	T1
21	VCC
20	Vref
19	PD GND
18	T2
17	D/d
16	C/c
15	SW
14	RF
13	B/b
12	HFM
11	A/a
10	LD DVD+
9	LD GND
8	LD CD+
7	CDIN-GND
6	DVDIN-GND
5	PIN(DVD/CD)
4	T+
3	F+
2	T-
1	F-

MODULE P.C.B.

PS8301

C	20
WIDE/ATT	19
Y	18
VGND	17
Y/PY/G	16
VGND	15
CB/PB/B	14
RGBH/MICMT	13
CR/PR/R	12
YCH/MICDET	11
NP OFF/ST LED	10
AMUTE	9
AUDIO DIGTAL	8
ADAC5V	7
ZF&AM/NPM	6
A-REF	5
ADGND	4
MIX-R	3
ADGND	2
MIX-L	1

FP3502

20	C
19	WIDE/ATT
18	Y
17	VGND
16	Y/PY/G
15	VGND
14	CB/PB/B
13	RGBH/MICMT
12	CR/PR/R
11	YCH/MICDET
10	NP OFF/ST LED
9	AMUTE
8	AUDIO DIGTAL
7	ADAC5V
6	ZF&AM/NPM
5	A-REF
4	ADGND
3	MIX-R
2	ADGND
1	MIX-L

MOTHER P.C.B.

TRVM+	1
TRVM-	2
SPM+	3
SPM-	4
GND(SW)	5
SW	6

FP8251

6	TRVM+
5	TRVM-
4	SPM+
3	SPM-
2	GND(SW)
1	SW

MECHANISM UNIT

PS8101

DOUT/K2	14
DIN/K1	13
CLK/K3	12
STB/DISC IN LED	11
REMOCON	10
M+9V	9
MGND	8
NSW+2.7V	7
DGND	6
A+5V	5
AGND	4
D+5V	3
DGND	2
NSW+3.3V	1

FP3501

14	DOUT/K2
13	DIN/K1
12	CLK/K3
11	STB/DISC IN LED
10	REMOCON
9	M+9V
8	MGND
7	NSW+2.7V
6	DGND
5	A+5V
4	AGND
3	D+5V
2	DGND
1	NSW+3.3V

LOADING MOTOR P.C.B.

OPEN_SW	7
GND(SW)	6
CLOSE_SW	5
LD+	4
LD+	3
LD-	2
LD-	1

FP8252

7	OPEN_SW
6	GND(SW)
5	CLOSE_SW
4	LD+
3	LD+
2	LD-
1	LD-

PJ6101

6	DGND
5	KS3
4	KS2
3	KS1
2	K2
1	STANDBY LED

JW6102

DGND	4
KS1	3
K2	2
STANDBY LED	1

POWER-SW P.C.B.

JW6102

4	DGND
3	KS1
2	K2
1	STANDBY LED

JW6101

6	DGND
5	KS3
4	KS2
3	KS1
2	K2
1	STANDBY LED

OPERATION P.C.B.

DVD-S1E/EB/EG
INTERCONNECTION SCHEMATIC DIAGRAM

F E D C B A

1 2 3 4 5 6 7 8 9

VIDEO MAIN SIGNAL AUDIO MAIN SIGNAL RF SIGNAL

TO FP3502
MOTHER P.C.B.
(F/AV SECTION)
PS8301
K1KY20AA0275

MIX-L	1
ADGND	2
MIX-R	3
ADGND	4
A-REF	5
ZF&AM/NPM	6
ADAC5V	7
AUDIODIGTAL	8
AMUTE	9
NPOFF/ST-LED	10
YCH/MICDET	11
CR/PR/R	12
RGBH/MICMT	13
CB/PB/B	14
VGND	15
Y/PY/G	16
VGND	17
Y	18
WIDE/ATT	19
C	20

TO FP3501
MOTHER P.C.B.
(F/AV SECTION)
PS8101
K1KY14AA0275

NSW+3.3V	1
DGND	2
D+5V	3
AGND	4
A+5V	5
DGND	6
NSW+2.7V	7
MGND	8
M+9V	9
REMOCON	10
STB	11
CLK	12
DIN	13
DOUT	14

TO OPTICAL PICKUP UNIT
FP8531
K1MY22AA0027

F-	1
T-	2
F+	3
T+	4
PIN(DVD/CD)	5
DVDIN-GND	6
CDIM-GND	7
LD CD+	8
LD GND	9
LD DVD+	10
A/a	11
HFM	12
B/b	13
RF	14
SW	15
C/c	16
D/d	17
T2	18
PD GND	19
Vref	20
VCC	21
T1	22

LOADING MOTOR P.C.B.
S2601 K0L1BA000078 CLOSE SW
S2602 K0L1BA000078 OPEN SW
LD-MOTOR
MT2601 L6AAYYC0001
TL2601
TL2602
TO MODULE P.C.B. FP2601 K1MN07B00009

LD-	1
LD-	2
LD+	3
LD+	4
CLOSE-SW	5
GND(SW)	6
OPEN-SW	7

TO LOADING MOTOR UNIT FP8252 K1MN07AA0076

1 LD-	
2 LD-	
3 LD+	
4 LD+	
5 CLOSE-SW	
6 GND(SW)	
7 OPEN-SW	

TRV AND SP MOTOR P.C.B.
SP-MOTOR L6AAYYYC0002
TRV-SW ESE22MH24
TRV-MOTOR L6AAYYYC0001
TO MODULE P.C.B.

TRV_INNER_SW	6
DGND	5
SPM -	4
SPM+	3
TRVM-	2
TRVM+	1

TO TRV AND SP MOTOR UNIT FP8251 K1MN06AA0076

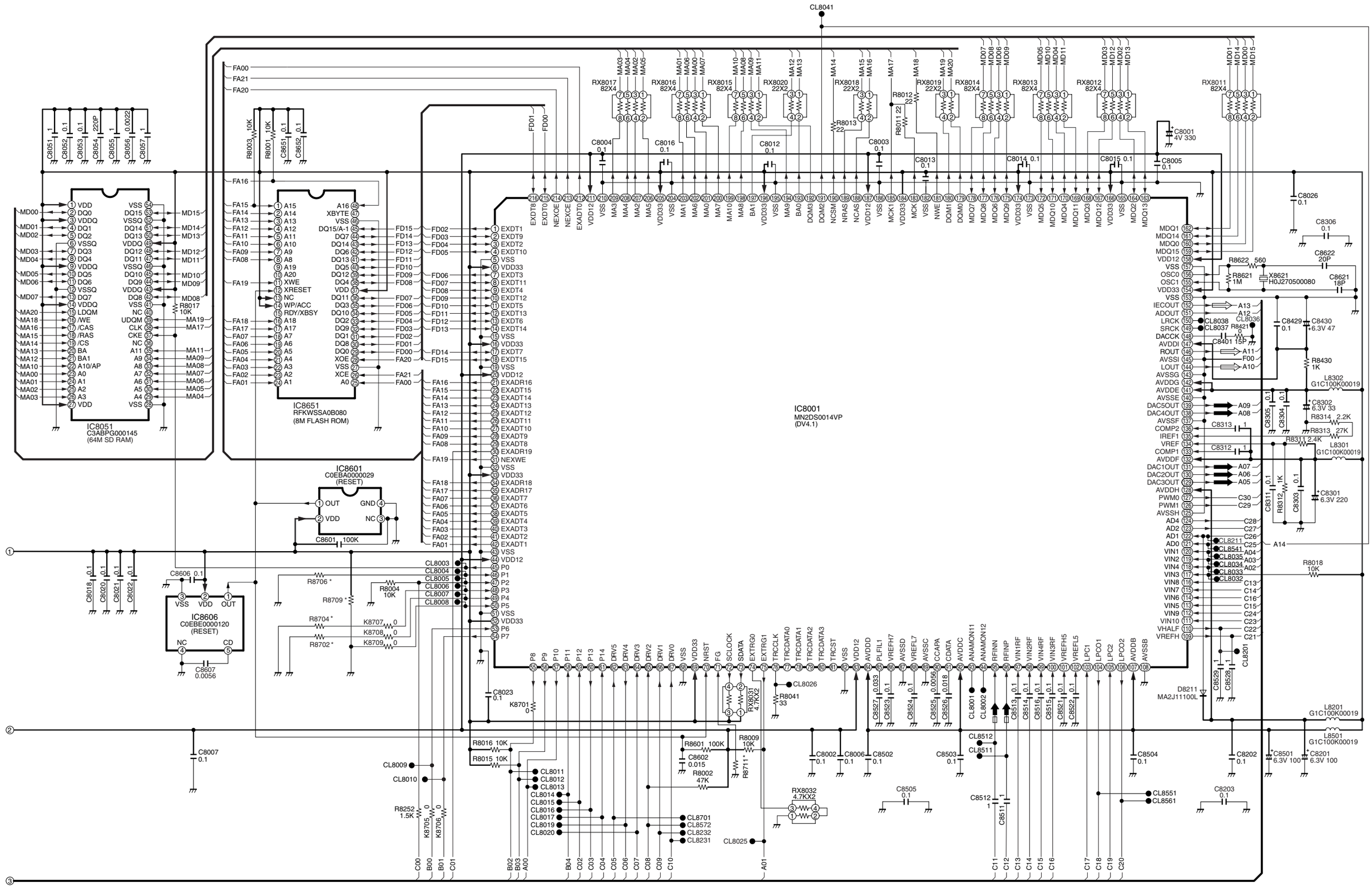
1 TRV_INNER_SW	
2 DGND	
3 SPM -	
4 SPM+	
5 TRVM-	
6 TRVM+	

IC8251
C0GBG0000054
(MOTOR DRIVE)
BIAS2 OPOUT OPIN- OPIN+ GND VIN5 VIN4 PVCC45 PVCC12 PGND VO4- VO4+ VO5- VO5+
MUTE3 BIAS1 MUTE1 MUTE2 VIN1 VIN2 VIN3 PVCC3 VO3- VO3+ VO2- VO2+ VO1- VO1+

IC8151
C0DBEYY00016
VCC CTL OUT ADJ GND

Q8561 2SD1819A0L (LD DRIVE)
Q8562 2SB09700RL (LD DRIVE)
Q8551 2SD1819A0L (LD DRIVE)
Q8552 2SB09700RL (LD DRIVE)
Q8421 B1ABDF000033
QR8420 B1GBCFJJ0040
Q8531 B1CFHC000003
Q8532 B1CFHC000003
Q8533 B1ABDF000026
Q8251 B1ABDF000026
Q8252 B1ABDF000026

DVD-S1E/EB/EG MODULE SCHEMATIC DIAGRAM


CL8041
IC8001
MN2DS0014VP
(DV4.1)
IC8051
C3ABPG000145
(64M SD RAM)
IC8651
RFKWSSA0B080
(8M FLASH ROM)
IC8601
C0EBA0000029
(RESET)
IC8606
C0EBE0000120
(RESET)
D8211
MA2J11100L
DVD-S1E/EB/EG MODULE SCHEMATIC DIAGRAM

A

ZA1111
RMCC0001-1

COLD
HOT

C1003
470p

P1001
K2AA2B000011

K1005

CL1001

C1001
0.1

ZA1001
EYF52BCY

ZA1002
EYF52BCY

VA1002
ERZVA52471N

CL1007

R1002
470K

R1001
470K

L1001
ELF15N003A

CL1002

C1002
0.1

D1011
B0EDKT000009

K1006

CL1004

F1001
K5D162BLA013
125V/250V 1.6A

CL1005

T1021
G4D2A0000265

CL1006

C1011
450V 10

C1012
450V 10

R1031
68K

C1031
0.0033

D1031
B0HADV000001

C1021
220P

R1071
4.3K

D1071
MAZ41000MF

C1092
50V 10

R1072

D1072
MA2C16500E

C1071
0.01

IC1021
C0DACZH00033

R1083
27K

R1082

D1082
MA2C16500E

R1081
3.3K

R1084
2.7K

D1081
MAZ40910HF

C1081
0.0015

C1082
0.0047

R1041
4.7

D1041
B0HAGM000006

K1091

C1041
50V 100

C1004
1000p

R1062
1.8K

R1061
1.8K

D1061
MA2C16500E

C1061
100P

ZA1112
K4CZ01000027

C1051
0.0015

R1051
20K

D1051
MAZ40910HF

Q1051
B3PBA0000241

C1102
0.1

R1105
2.2K

R1104
1K

R1107
10K

R1101
180

C1101
0.68

R1106
1K

R1102
4.7K

R1103
4.7K

R
A
C

IC1101
C0DAEMB00003

D1171
B0JAME000037

C1171
10V 100

K1172

K1171

CL1116

FLH+

CL1115

FLH-

L1131
G0C330KA0065

CL1111

NSW+12V

IC1151
C0DBZHG00047

IN ON/OFF OUT NC GND

CL1112

ADGND

D1152
B0JAMK000023

D1151
B0JAMK000023

L1151
G0A220GA0026

D1153
B0EAKM000122

K1154

K1155

C1151
25V 330

C1153
25V 330

C1155
0.1

C1154
16V 220

CL1107

M+9V

NPOFF_L

D1111
B0JAMG000013

L1111
G0A100HA0023

C1111
10V 680

C1112
10V 1000

Q1115
B1DHDD000029

R1115
100K

C1115
0.1

L1117
G0C100JA0048

CL1105

A+5V

D+5V

C1116
10V 220

C1117
6.3V 1000

R1116
1K

QR1115
B1GBCFNN0043

VGND

CL1104

DGND

C1110
0.01

CL1106

AGND

CL1108

MGND

D1121
B0JAMG000013

D1122
B0EAKM000117

K1122

CL1101

NSW+2.7V

C1121
6.3V 680

C1122
6.3V 2200

D1141
B0JAMK000023

K1141

L1141
G0C330KA0065

CL1113

NSW-12V

C1141
25V 100

IC1195
C0DBZGG00062

VIN GND VOUT

CL1109

NSW+3.3V

C1195
1

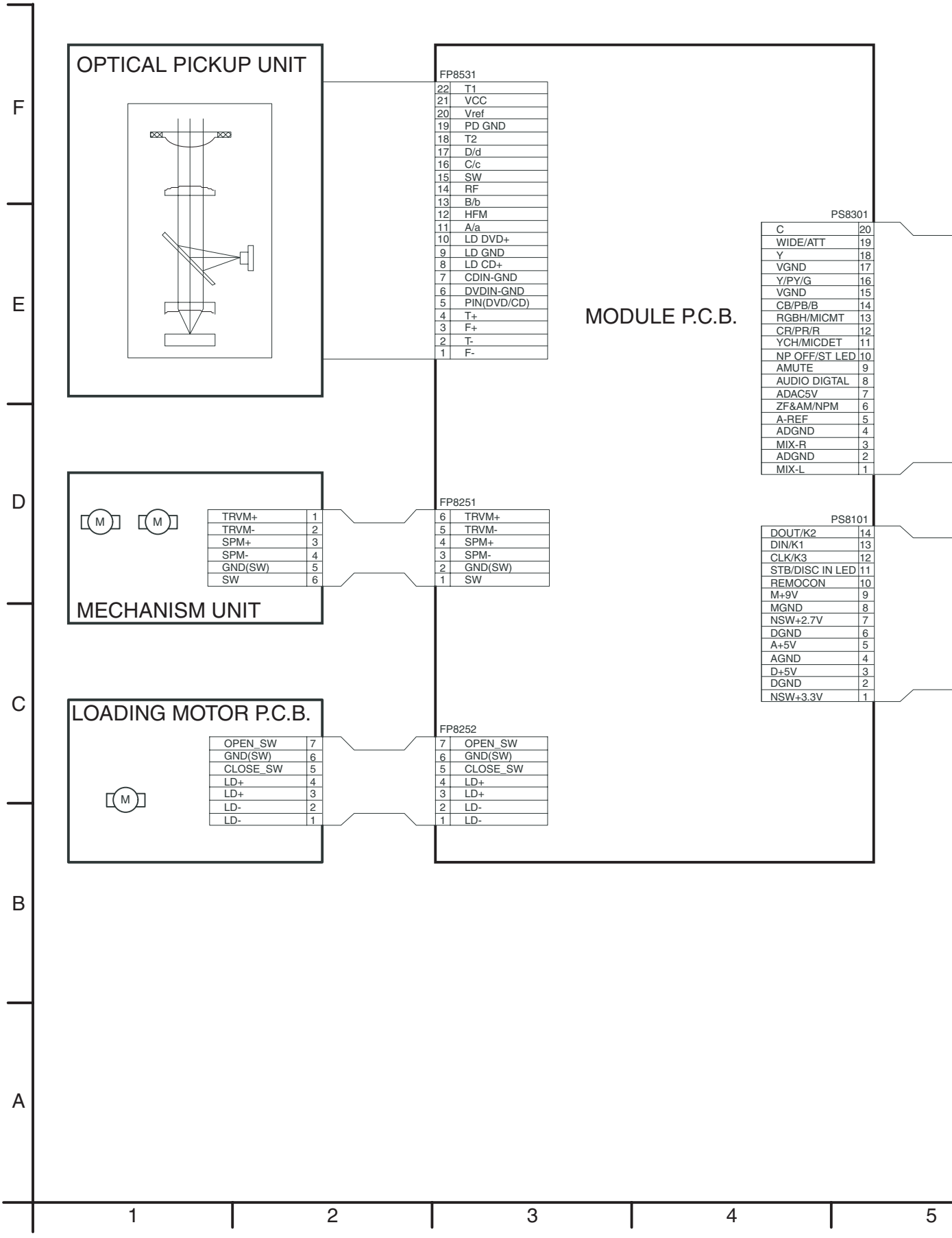
C1196
1

A:PO(POWER SUPPLY SECTION)
B:F/AV(FRONT & AV OUT SECTION)

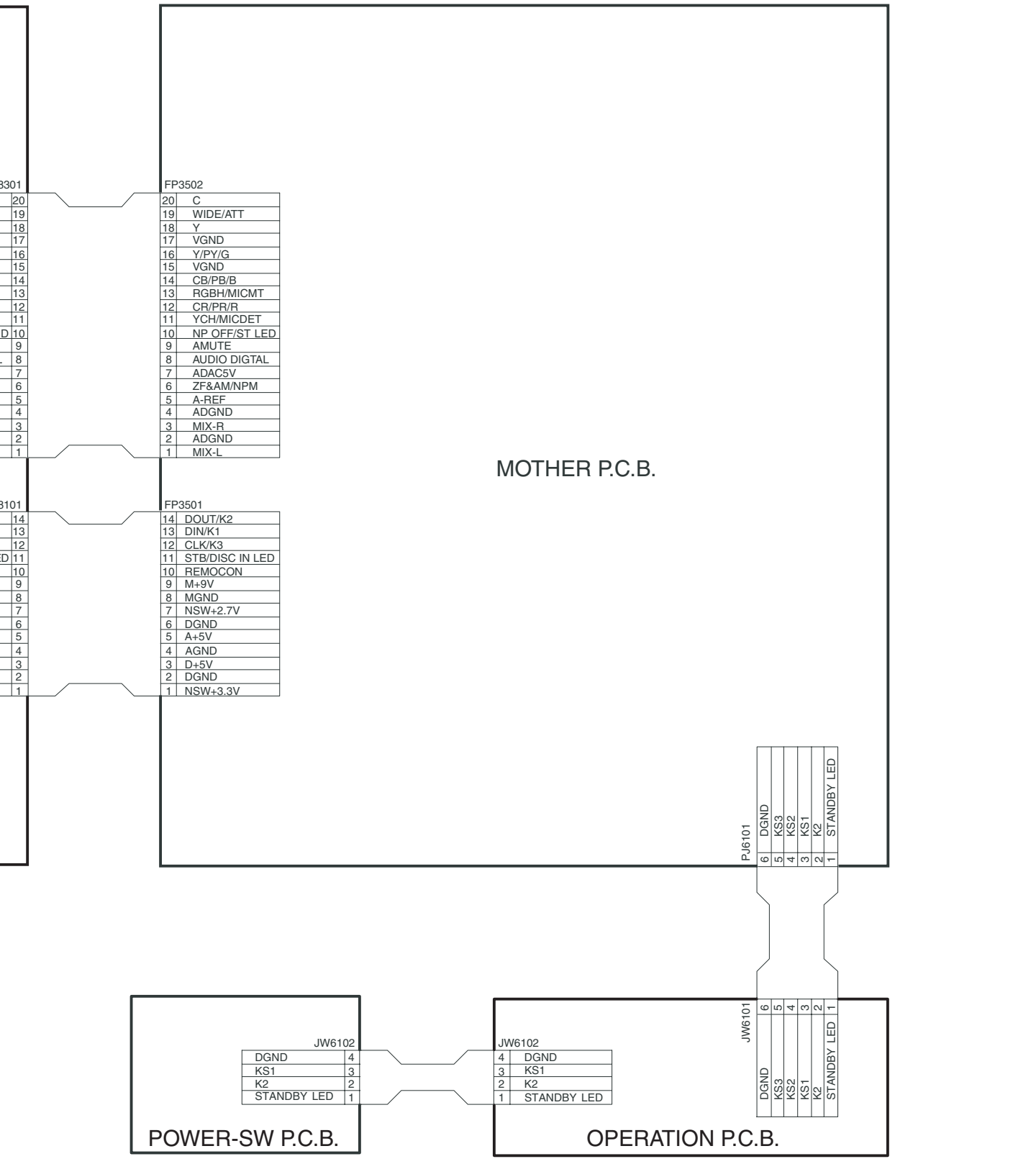
DVD-S1E/EB/EG
POWER SUPPLY SECTION(MOTHER P.C.B.(1/2))
SCHEMATIC DIAGRAM

14 INTERCONNECTION SCHEMATIC DIAGRAM & SCHEMATIC D

14.1. INTERCONNECTION SCHEMATIC DIAGRAM



IATIC DIAGRAM NOTES



DVD-S1E/EB/EG
INTERCONNECTION SCHEMATIC DIAGRAM

5 6 7 8 9

14.2. SCHEMATIC DIAGRAM NOTES

This schematic diagram may be modified at any time with the development of new technology.

Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purpose of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacture´s specified parts shownin theparts list.

Important safety notice:

There are special components used in this equipment which are important for safety.

These parts are marked by ⚠ in the schematic diagrams. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

Caution!

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

Cover the parts boxes made of plastics with aluminum foil.

Ground the soldering iron.

Put a conductive mat on the work table.

Do not touch the legs of IC or LSI with the fingers directly.

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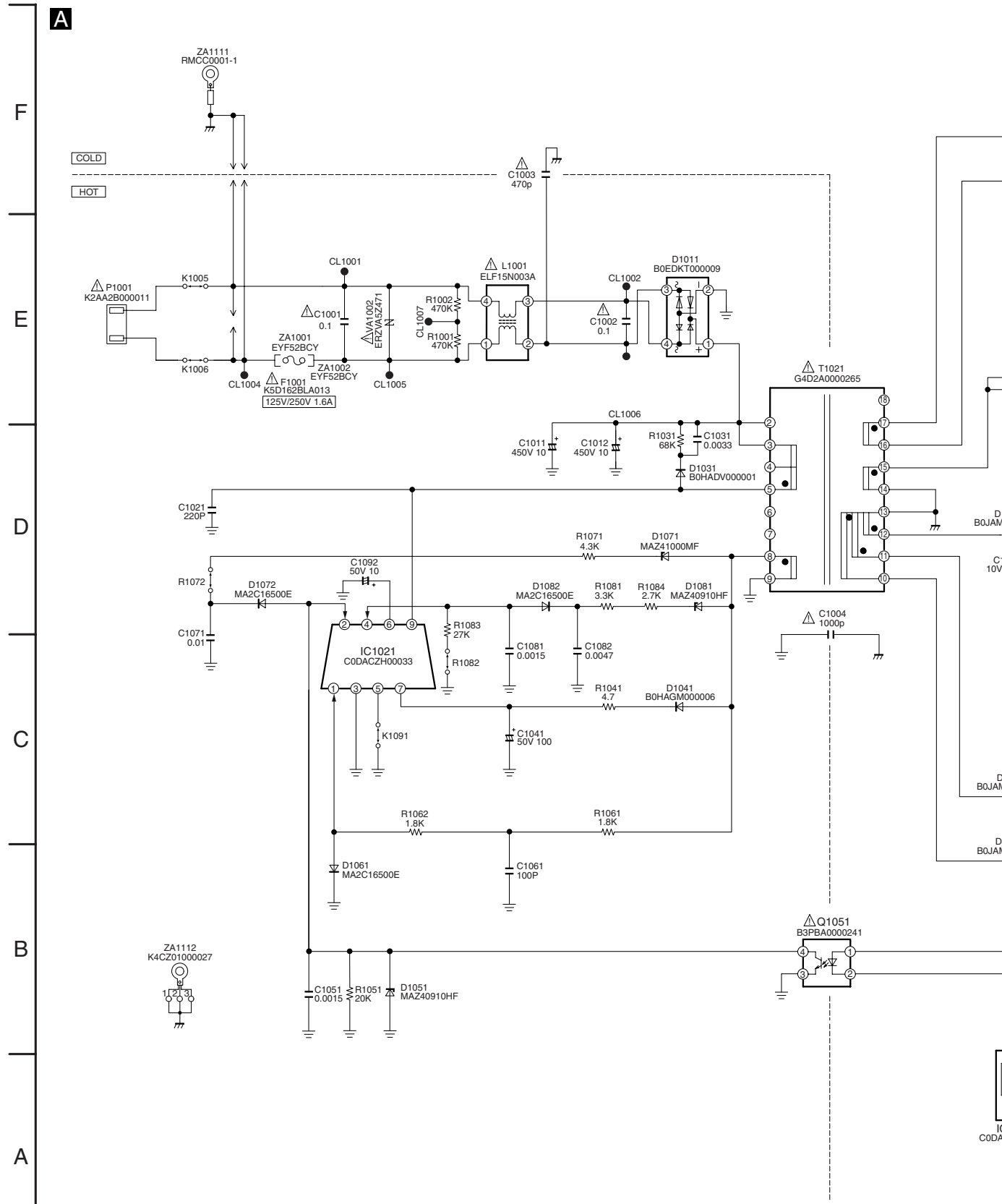
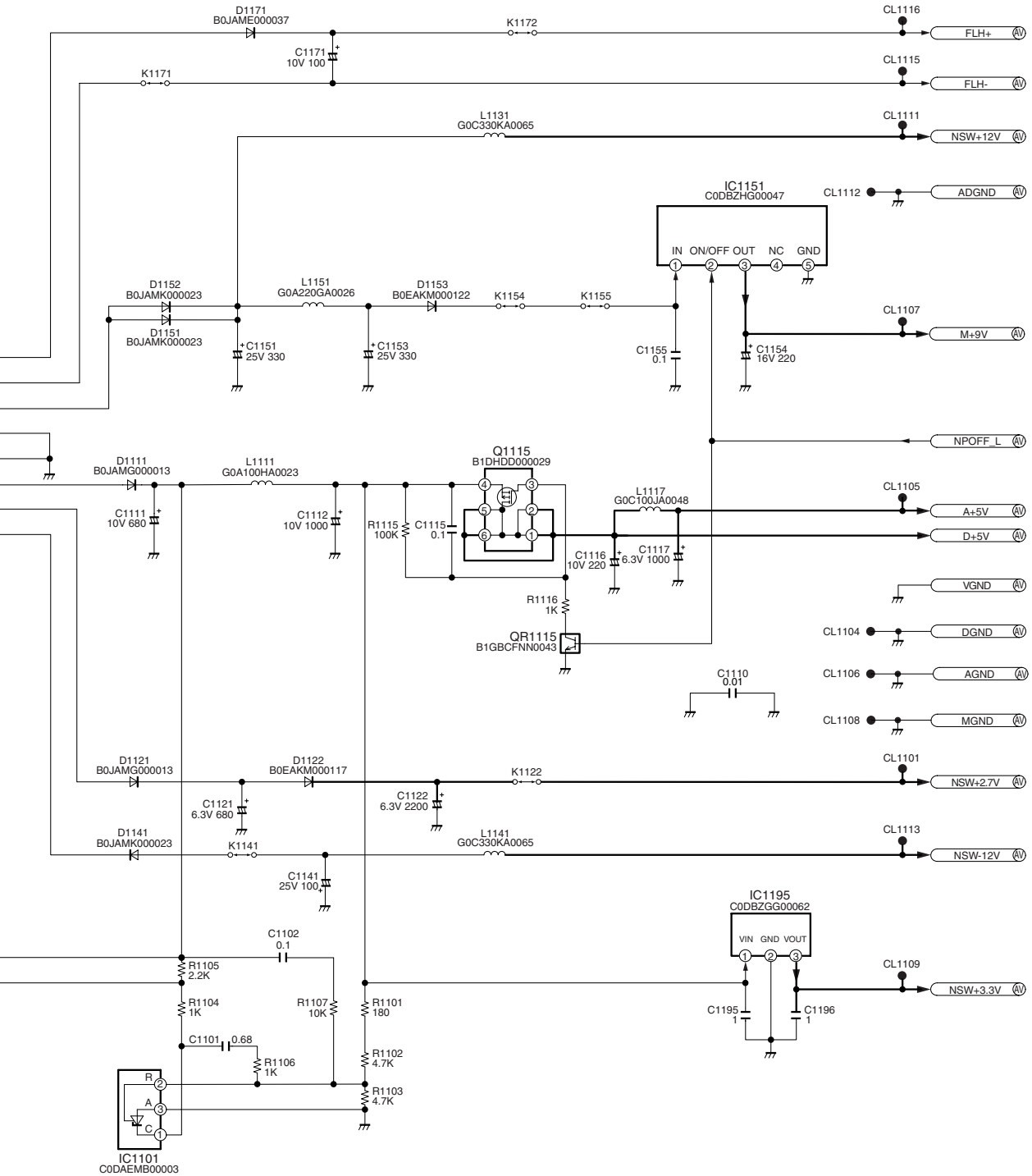
ith
of

15 SCHEMATIC DIAGRAM

15.1. POWER SUPPLY SECTION (MOTHER P.C.B. (1 / 2)) SCHEMATIC DIAGRAM



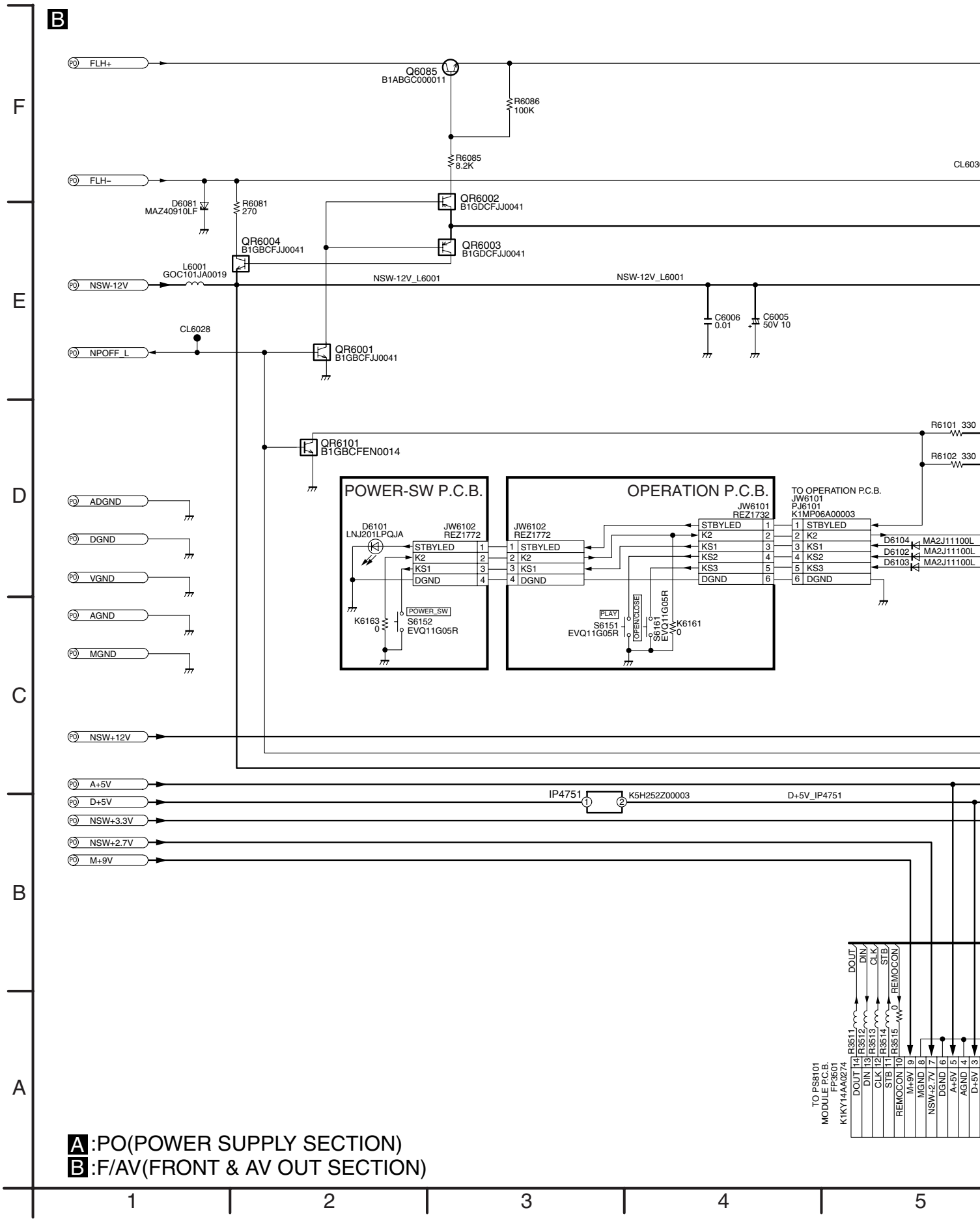
IAGRAM



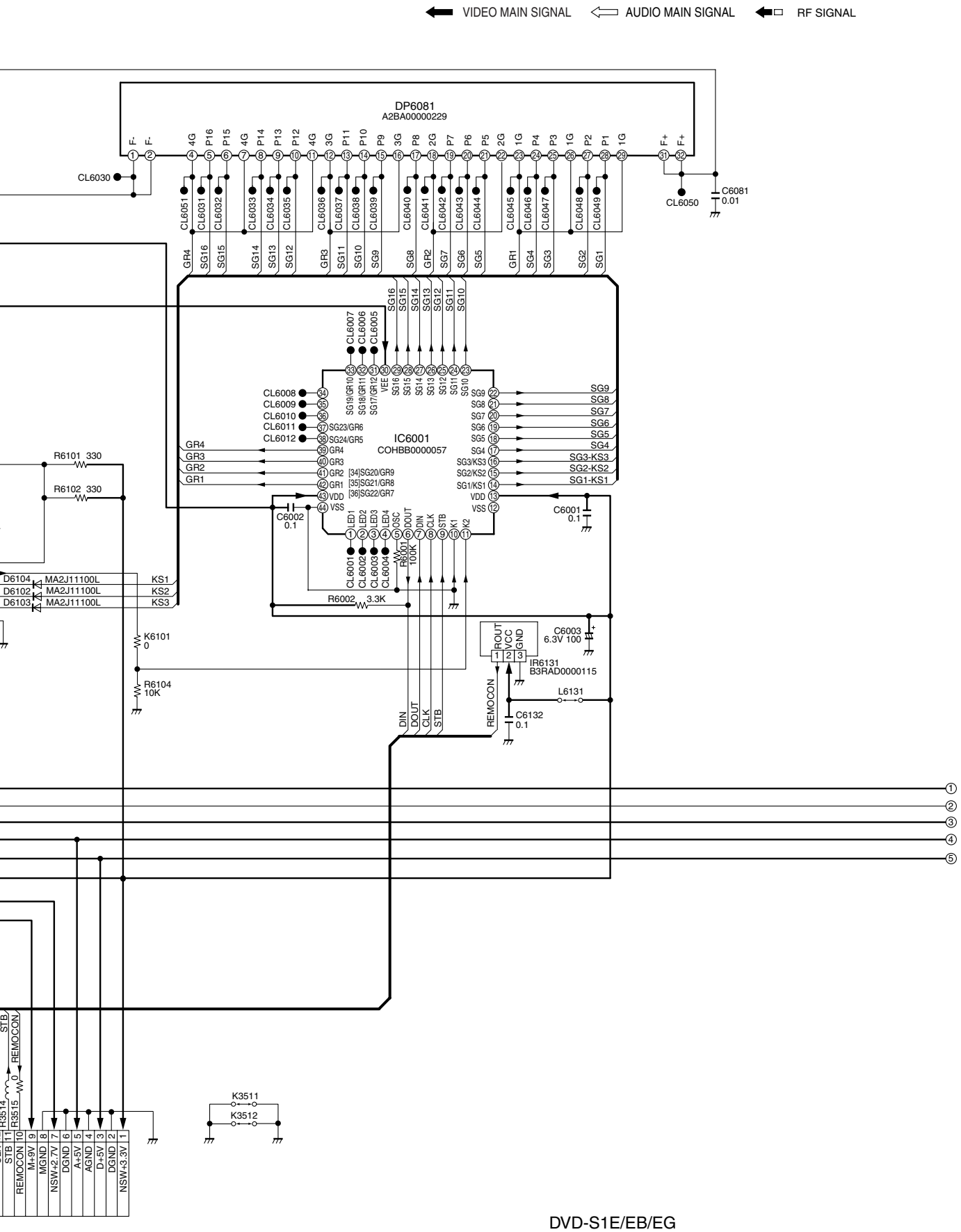
DVD-S1E/EB/EG
POWER SUPPLY SECTION(MOTHER P.C.B.(1/2))
SCHEMATIC DIAGRAM

5	6	7	8	9

15.2. FRONT & AV OUT SECTION (MOTHER P.C.B. (2 / 2)) SCHEMATIC DIAGRAM

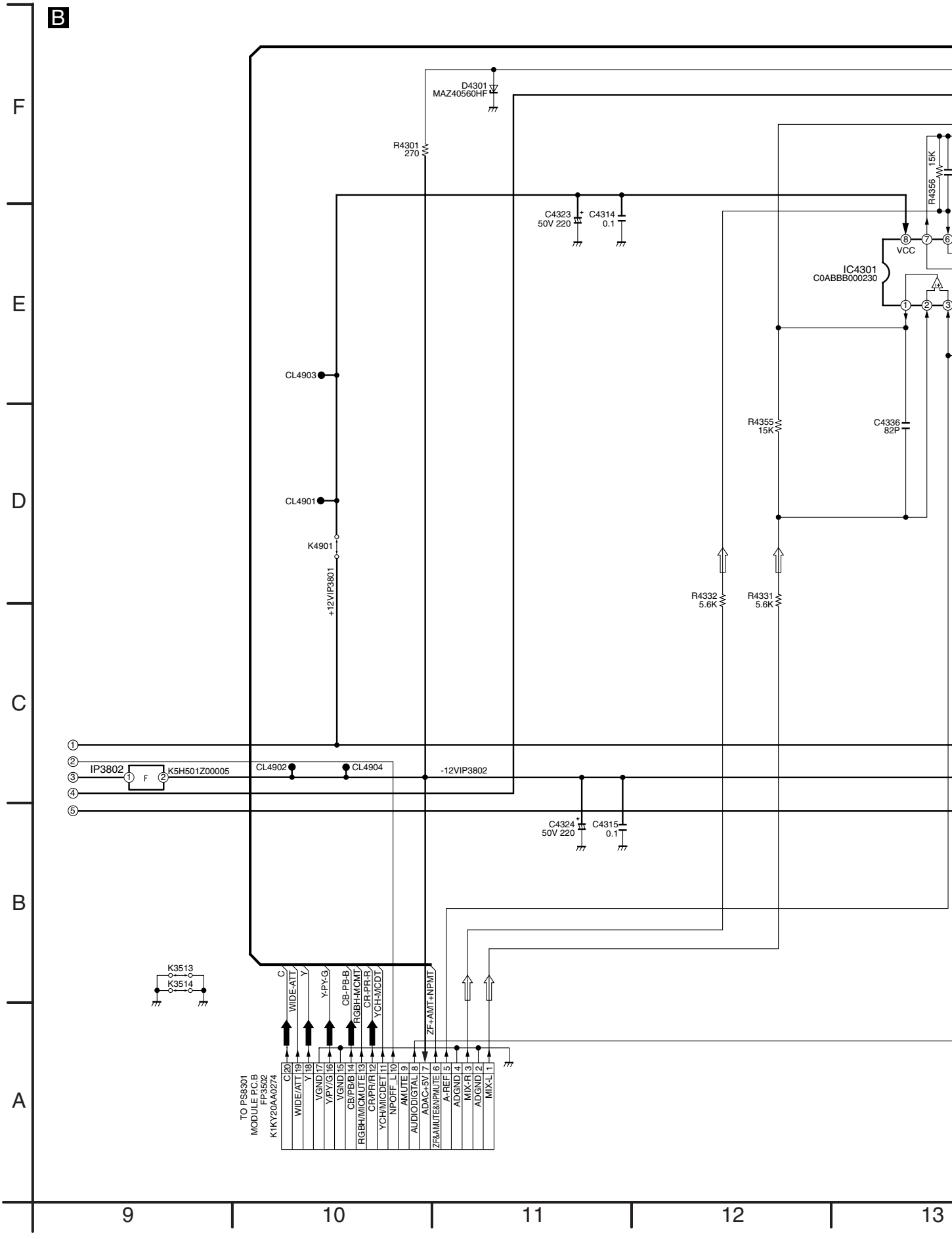


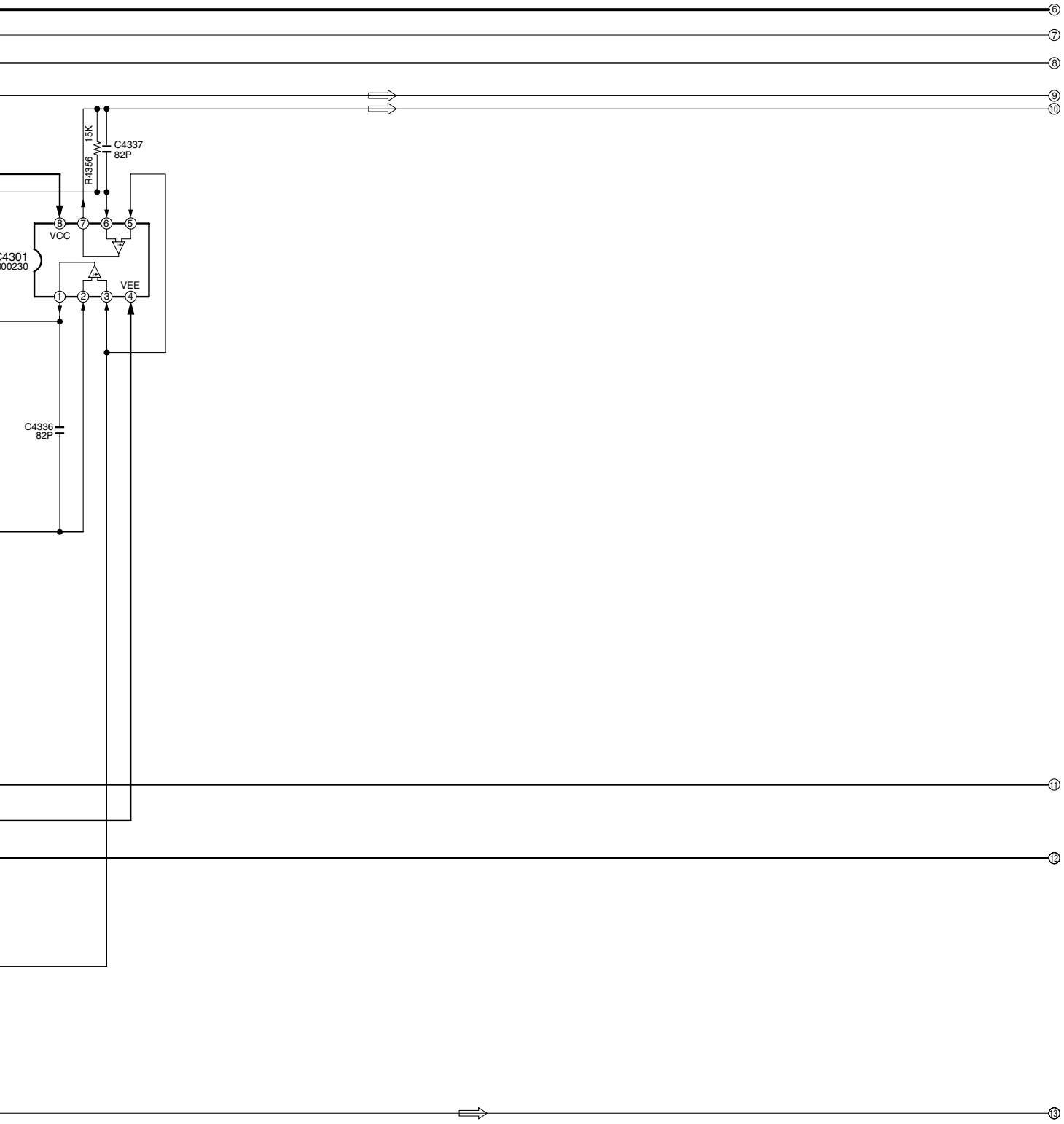
GRAM



DVD-S1E/EB/EG
FRONT & AV OUT SECTION (MOTHER P.C.B.(2/2))
SCHEMATIC DIAGRAM

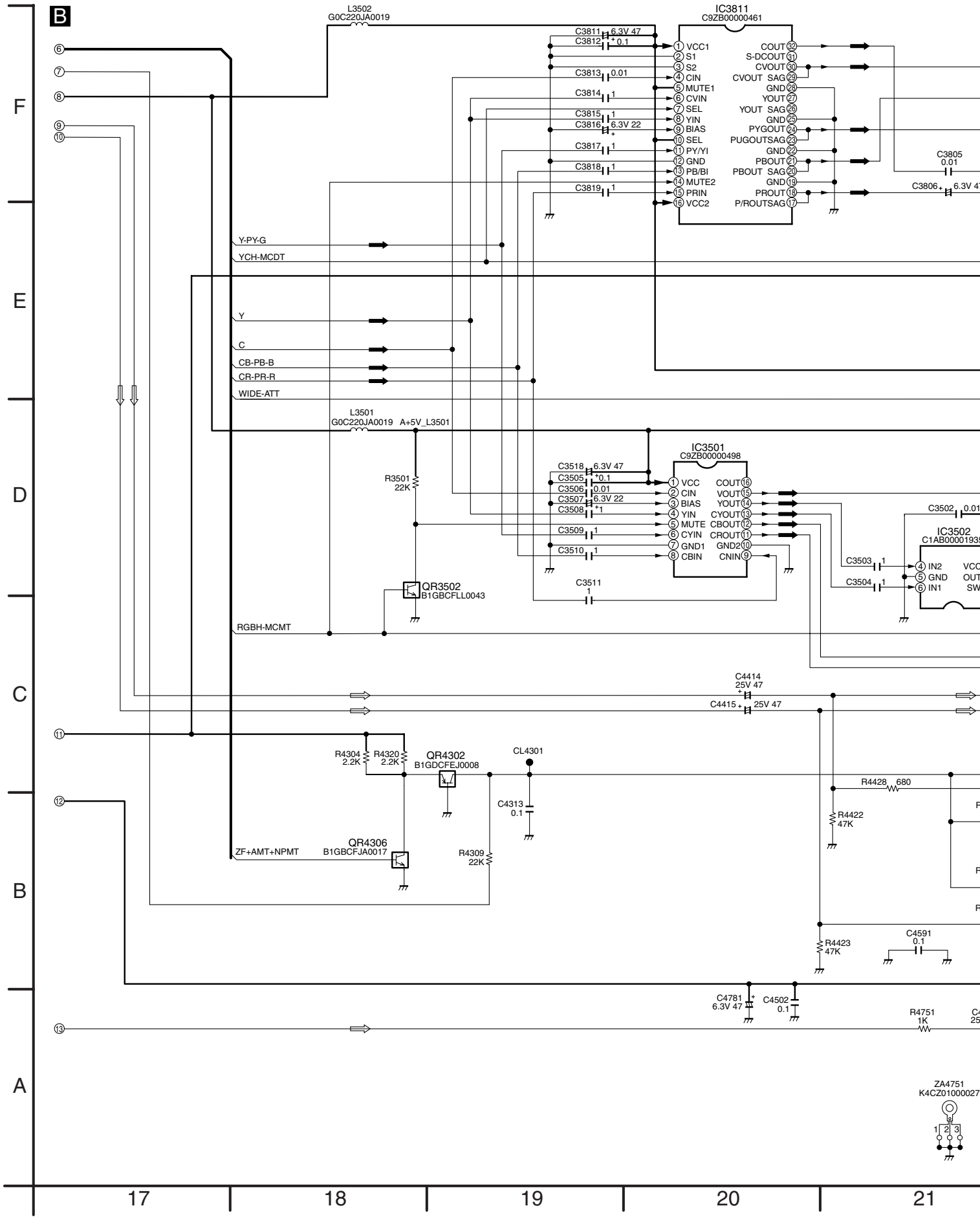
5 | 6 | 7 | 8 | 9

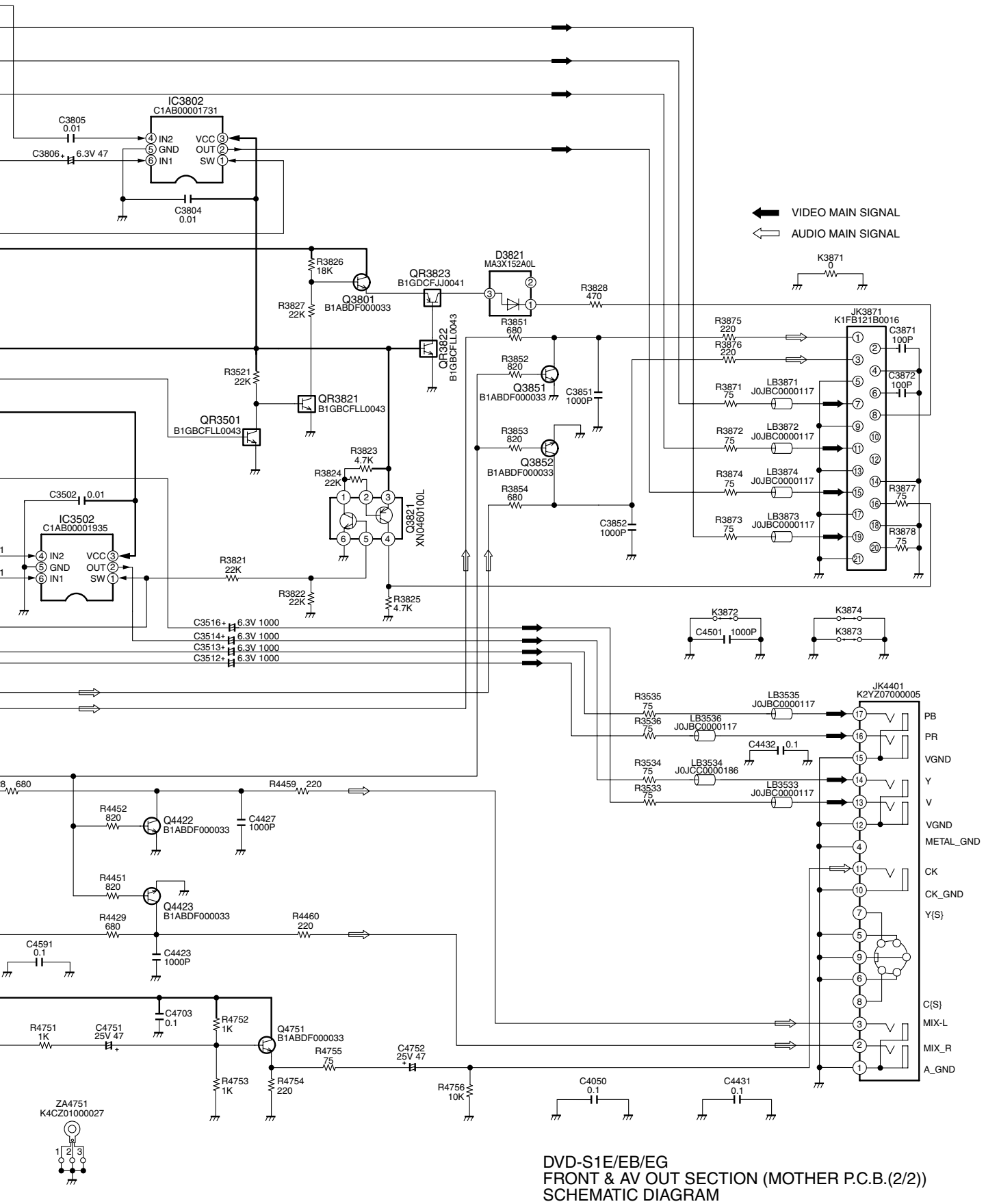

B
D4301
MAZ40560HF
R4301
270
C4323
50V 220
C4314
0.1
R4356
15K
VCC
IC4301
C0ABBB000230
CL4903
CL4901
K4901
+12VIP3801
R4355
15K
C4336
82P
R4332
5.6K
R4331
5.6K
IP3802
K5H501Z00005
CL4902
CL4904
-12VIP3802
C4324
50V 220
C4315
0.1
K3513
K3514
C
WIDE-ATT
Y
Y-PY-G
CB-PB-B
RGBH-MCMT
CR-PR-R
YCH-MCDT
ZF+AMT+NPMT
TO PS8301
MODULE P.C.B
FP3502
K1KY20AA0274
C 20
WIDE/ATT 19
Y 18
VGND 17
Y/PY/G 16
VGND 15
CB/PB/B 14
RGBH/MICMUTE 13
CR/PR/R 12
YCH/MICDET 11
NPOFF_L 10
AMUTE 9
AUDIODIGITAL 8
ADAC+5V 7
ZF&AMUT&NPMUTE 6
A-REF 5
ADGND 4
MIX-R 3
ADGND 2
MIX-L 1
F
E
D
C
B
A
9
10
11
12
13



DVD-S1E/EB/EG
FRONT & AV OUT SECTION (MOTHER P.C.B.(2/2))
SCHEMATIC DIAGRAM

13 | 14 | 15 | 16 | 17

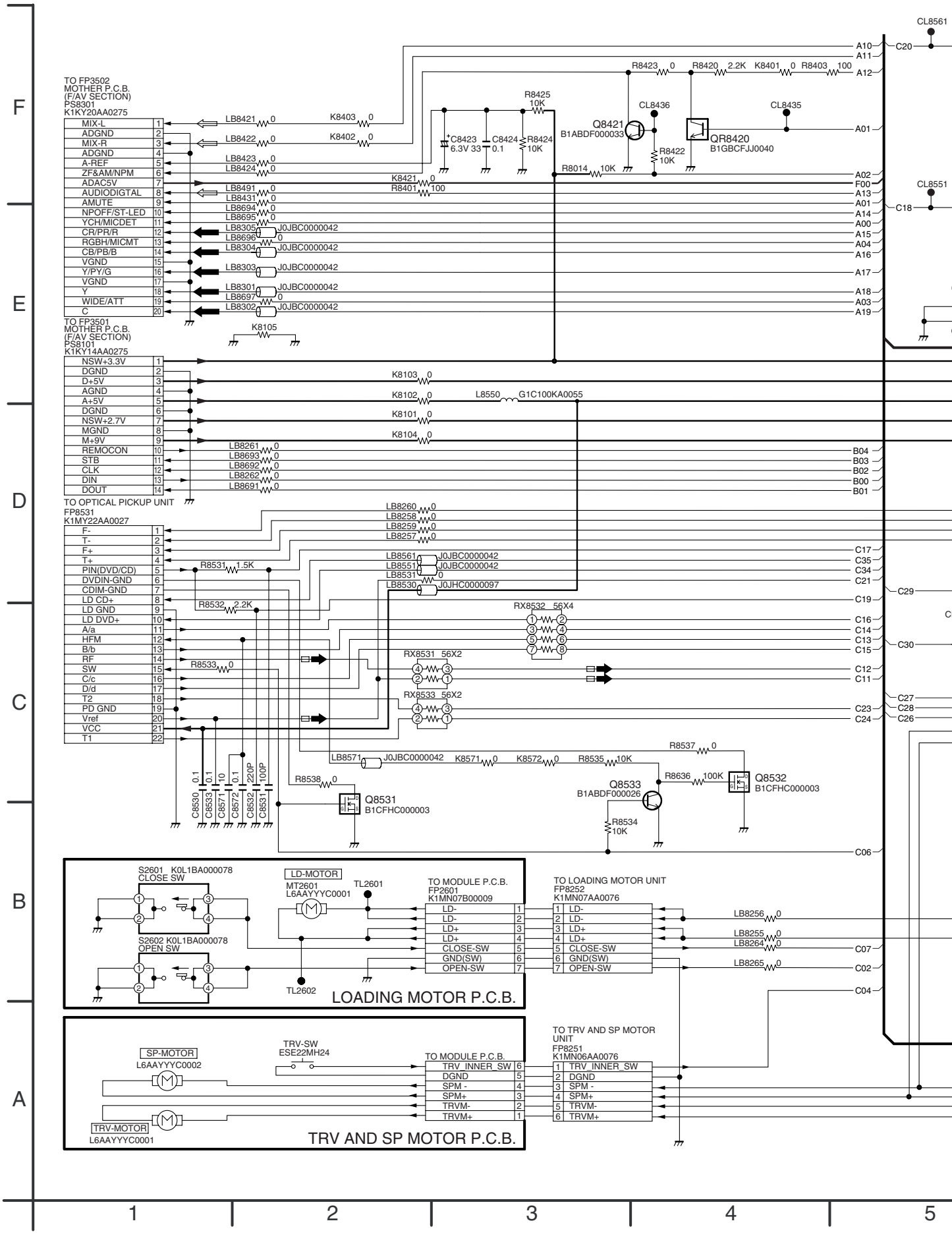

B
L3502
G0C220JA0019
IC3811
C9ZB00000461
C3811 6.3V 47
C3812 0.1
C3813 0.01
C3814 1
C3815 1
C3816 6.3V 22
C3817 1
C3818 1
C3819 1
1 VCC1
2 S1
3 S2
4 CIN
5 MUTE1
6 CVIN
7 SEL
8 YIN
9 BIAS
10 SEL
11 PY/YI
12 GND
13 PB/BI
14 MUTE2
15 PRIN
16 VCC2
COUT 32
S-DCOUT 31
CVOUT 30
CVOUT SAG 29
GND 28
YOUT 27
YOUT SAG 26
GND 25
PYGOUT 24
PUGOUTSAG 23
GND 22
PBOUT 21
PBOUT SAG 20
GND 19
PROUT 18
P/ROUTSAG 17
C3805 0.01
C3806 6.3V 47
Y-PY-G
YCH-MCDT
Y
C
CB-PB-B
CR-PR-R
WIDE-ATT
L3501
G0C220JA0019
A+5V_L3501
IC3501
C9ZB00000498
R3501 22K
C3518 6.3V 47
C3505 0.1
C3506 0.01
C3507 6.3V 22
C3508 1
C3509 1
C3510 1
1 VCC
2 CIN
3 BIAS
4 YIN
5 MUTE
6 CYIN
7 GND1
8 CBIN
COUT 16
VOUT 15
YOUT 14
CYOUT 13
CBOUT 12
CROUT 11
GND2 10
CNIN 9
C3511 1
C3502 0.01
IC3502
C1AB0000193
C3503 1
C3504 1
4 IN2
5 GND
6 IN1
VCC
OUT
SW
QR3502
B1GBCFLL0043
RGBH-MCMT
C4414 25V 47
C4415 25V 47
R4304 2.2K
R4320 2.2K
QR4302
B1GDCFEJ0008
CL4301
C4313 0.1
R4428 680
R4422 47K
QR4306
B1GBCFJA0017
ZF+AMT+NPMT
R4309 22K
R4423 47K
C4591 0.1
C4781 6.3V 47
C4502 0.1
R4751 1K
ZA4751
K4CZ01000027
1 2 3
F
E
D
C
B
A
17
18
19
20
21

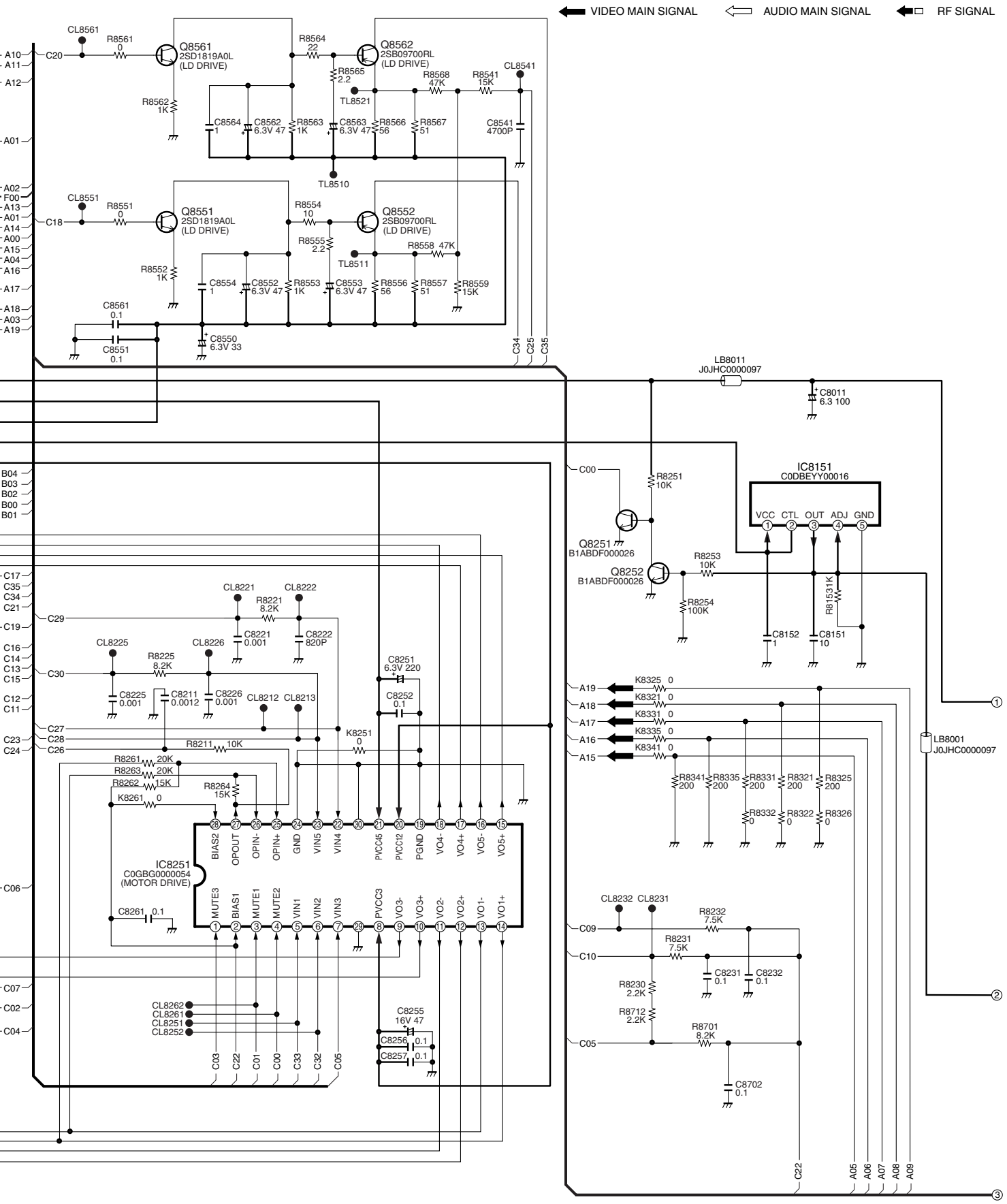


DVD-S1E/EB/EG
FRONT & AV OUT SECTION (MOTHER P.C.B.(2/2))
SCHEMATIC DIAGRAM

21	22	23	24	25

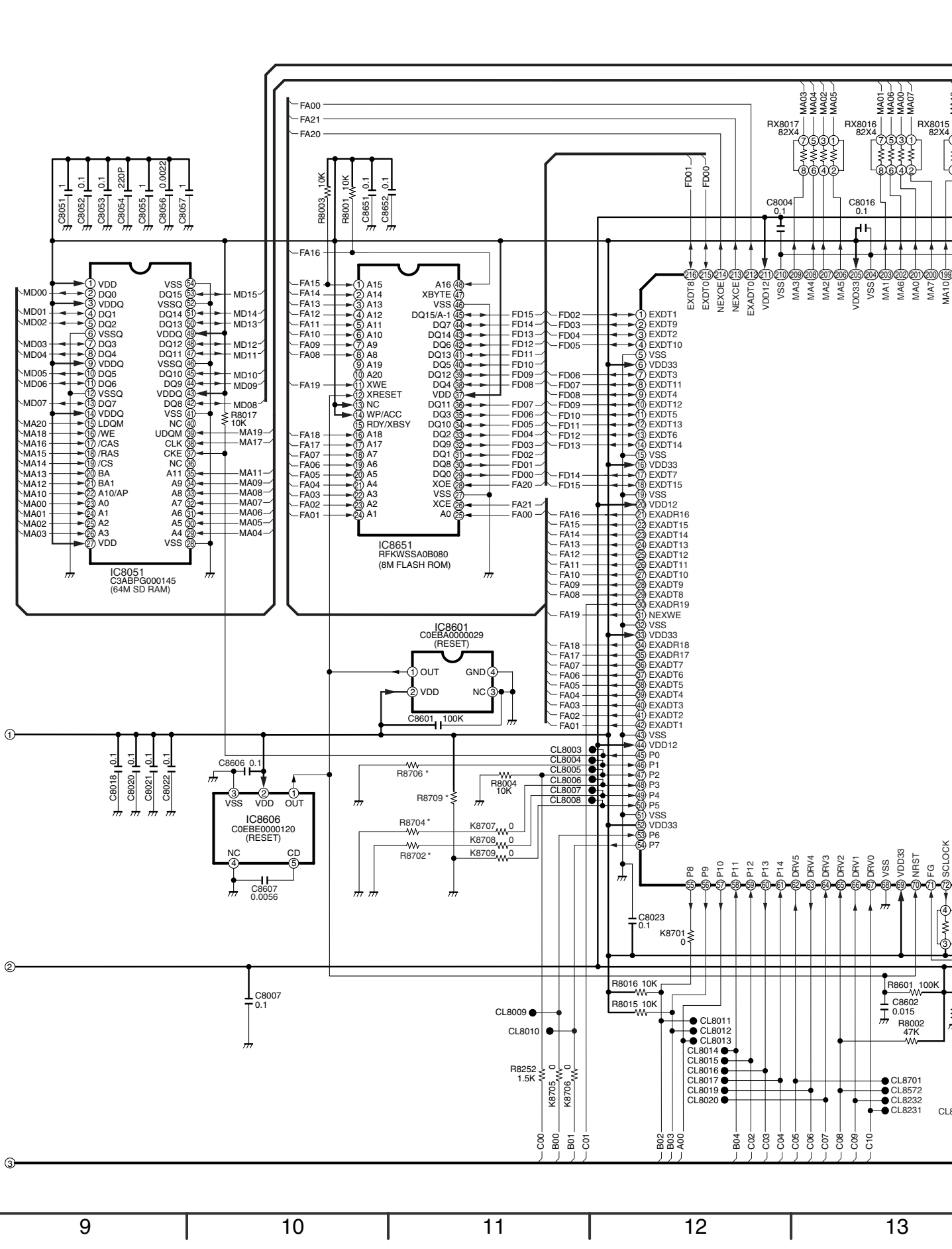
15.3. MODULE SCHEMATIC DIAGRAM

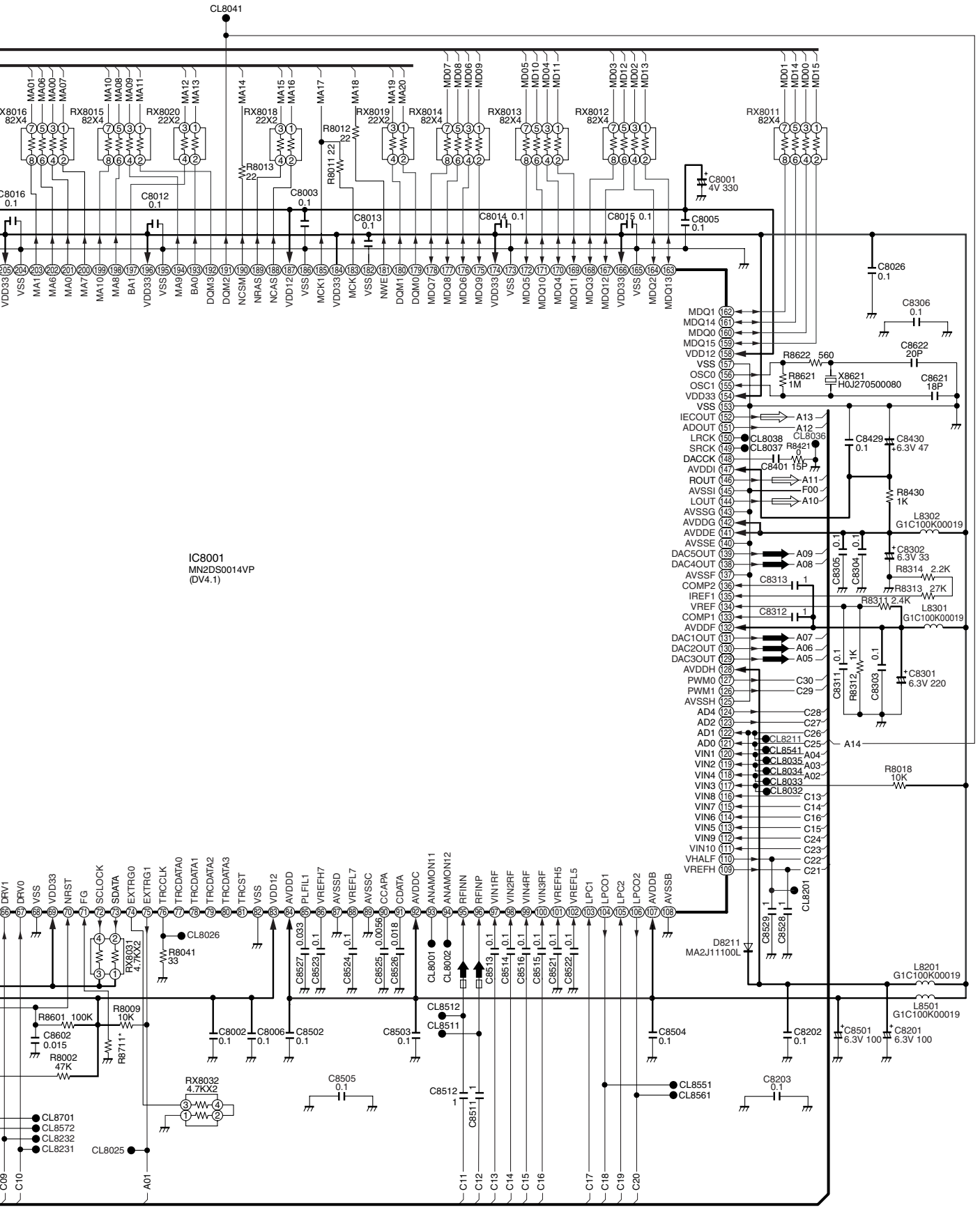




DVD-S1E/EB/EG MODULE SCHEMATIC DIAGRAM

5 | 6 | 7 | 8 | 9


IC8051
C3ABPG000145
(64M SD RAM)
IC8651
RFKWSSA0B080
(8M FLASH ROM)
IC8601
C0EBA0000029
(RESET)
IC8606
C0EBE0000120
(RESET)
F
E
D
C
B
A
9
10
11
12
13



DVD-S1E/EB/EG MODULE SCHEMATIC DIAGRAM

13	14	15	16	17

Ref No.	IC8001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	1	0.9	1	1	0	3.3	1.2	1.3	1	1	1.2	1	1	1.2	0	3.3	0	1.3	0	1.2
STOP	0.8	0.8	0.9	1.1	0	3.3	1	1.3	0.9	0.9	0.7	0.9	0.7	1.2	0	3.3	1	1.9	0	1.2
Ref No.	IC8001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	1.2	0.3	1	2.7	1.5	0.9	2.2	1	1.2	0.8	3.3	3.3	0	3.3	3.3	1.9	2.1	1.9	1.4	1.3
STOP	0.3	0.6	3	1.7	1.3	2.6	1.3	1.6	0.6	0	3	0	3.3	3.3	2.4	2.4	0.9	0.9	2.4	1.2
Ref No.	IC8001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
PLAY	2	1.2	0	1.2	3.3	0	3.3	3.3	0	0	0	3.3	3	3.3	3.3	3.3	0	3.3	3.3	0
STOP	2.2	1.1	0	1.2	3.3	0	0	3.3	0	0	0	3.3	3	3.3	3.3	0	0	3.3	3.3	0
Ref No.	IC8001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
PLAY	3.2	1.6	3.3	0	0	1.8	1.6	0	3.3	3.3	0	0	0	0	0	0	0	0	0	0
STOP	3.3	1.6	0	0	0	1.7	1.6	0	0	3.3	0	3.3	3.3	0	3.3	0	0	0	0	0
Ref No.	IC8001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
PLAY	0	0	1.2	0	0.9	2.3	0	1.8	0	0.1	0	3.2	2	2	0	1.8	1.6	1.6	1.6	1.6
STOP	0	0	1.2	3.2	0.9	0	0	1.8	0	0.1	1.8	3.2	2.1	2	1.8	1.8	1.6	1.6	1.6	1.6
Ref No.	IC8001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
PLAY	1.9	1.4	0.2	0.1	0.2	2.1	3.2	0	2.2	1.6	2.5	0	2.3	2.3	2.3	2.3	3.2	0	3.2	0
STOP	1.9	1.4	0	0.1	0	0.1	3.2	0	2.2	1.6	2.2	2.2	0	2.2	2.2	2.2	3.2	0	3.2	0
Ref No.	IC8001																			
MODE	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
PLAY	1.8	2.5	1.6	1.7	0	1.6	1.7	3.3	0.8	0.9	0.4	3.3	2.2	0	1.1	2.2	0	0.4	0.9	0
STOP	2	1.6	1.6	1.6	0	1.6	1.6	3.3	0.8	0.9	0.4	3.2	2.2	1	1	2.2	0	1.4	0.8	0
Ref No.	IC8001																			
MODE	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
PLAY	3.3	3.3	0	1.6	0	1.6	3.2	0	0	0	0	1.6	0	3.3	0	1.6	0	1.2	3	3.1
STOP	3.3	3.3	0	1.6	0	1.6	3.2	0	0	0	0	1.6	0	3.3	1.6	1.6	0	1.2	3	3.1
Ref No.	IC8001																			
MODE	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
PLAY	2.8	3.1	2.9	3	0	3.3	3.1	3	3	3.2	3	3	0	3.3	3.1	3	3.1	2.9	2.9	2.8
STOP	2.9	3.2	2.9	3.1	0	3.3	3.1	3.1	3	3.3	3.1	3	0	3.3	3.2	3	3.1	2.9	2.9	0
Ref No.	IC8001																			
MODE	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
PLAY	3.2	0	1.6	3.3	1.6	0	1.2	3.2	0	3.2	3.2	0	0	0	0	3.3	3.3	0	0	1.5
STOP	3.2	0	1.6	3.2	1.6	0	1.2	3.2	3.2	3.1	3.2	0	2.4	0	0	3.3	1.6	0	0	1.6
Ref No.	IC8001																			
MODE	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216				
PLAY	0	1.8	0	0	3.2	0	0.2	1.4	1.5	0	1.2	1.4	2.6	2.6	1.5	1.4				
STOP	0.1	0	0.3	0	3.3	1.6	0.3	1.5	0.6	0	1.2	1.6	2.7	2.6	1.2	1.1				
Ref No.	IC8051																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	3.3	0	3.3	3.2	3.1	0	3.1	3.3	0	3.1	3	0	2.9	0	2.9	0	0	3.2	3.2	2.5
STOP	3.3	0	3.4	1	0	0	1	0	0	0	1	0	0	3.3	1	0	3.3	3.3	3.3	3.3
Ref No.	IC8051																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	1.6	0	0	0	0.2	1.6	3.3	0	1.6	0	0.2	0.9	0	0	0	0	3.3	1.6	3.3	0
STOP	1	1	1	0	1	0	3.3	0	1	1	1	1	1	1	1	1	0	0	0	0
Ref No.	IC8051														IC8151					
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54		1	2	3	4	5
PLAY	0	3.3	3.3	3.3	3.3	0	3.3	3.3	3.3	3.3	3.3	0	3.3	0		3	3	1.2	1.2	0
STOP	0	1	3.3	1	1	0	0	1	3.3	1	1	0	0	0		2.8	0	1.2	0	0
Ref No.	IC8251																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0	1.6	3.3	3.2	1.7	1.6	1.6	9	4.3	4.3	4.3	4.2	3.5	5.1	2.9	2.3	2.7	0	0	9
STOP	0	1.6	0	0	0	1.5	1.6	9	4.2	4.2	0	4.2	3.3	3.4	2.6	2.6	2.5	2.6	0	9
Ref No.	IC8251								IC8601						IC8606					
MODE	21	22	23	24	25	26	27	28	1	2	3	4		1	2	3	4	5		
PLAY	5	1.6	0	0	3.1	3.3	2.9	1.6	3.3	1.2	0	0		0	0	3.3	3.3	3		
STOP	0.1	0	0	0	0	2.4	1.6	1.6	0	0	0	0		0	0	3.3	3.3	3		
Ref No.	IC8651																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	1.5	0	1.1	0.4	2.2	1.1	1	0	0	0	3.3	3.3	3.3	3.3	0.3	3.3	3.3	2	2.5	1.7
STOP	1.8	2	0.9	0.6	1.8	1	0.7	2	0	0	3.3	3.3	3.3	3.3	0.3	1.2	0	1.6	0	0
Ref No.	IC8651																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	0	1.6	1.6	1.7	0	1.7	1.8	1.7	0	0	3.3	3.3	3.3	3.3	2	2	1.5	1.6	1.6	3.2
STOP	0.6	3	2.7	2.9	1.5	2.8	1.7	2.3	0	0	3.3	3.3	3.3	3.3	1.8	2.6	2.5	2	1.7	1.5
Ref No.	IC8651								Q8251				Q8252				Q8421			
MODE	41	42	43	44	45	46	47	48	B	C	E		B	C	E		B	C	E	
PLAY	1.1	1.1	1.1	0	1.1	0	3.3	0	3.2	0	0		0	0	0.6		2.8	0	0	
STOP	1.2	1.2	0.1	0	1.1	0	0	0	0	0	0		0	0	0.6		0	0	0	
Ref No.	Q8531				Q8532				Q8551				Q8552				Q8561			
MODE	B	C	E		B	C	E		B	C	E		B	C	E		B	C	E	
PLAY	0.4	0	3.3		0.2	0	0		5	0	0		0	5	5		3.5	1.7	2.1	
STOP	0	0	0		0	0	0		5	0	0.1		0	5	5		5	0	0	
Ref No.	Q8562				QR8420				QR8533											
MODE	B	C	E		B	C	E		B	C	E									
PLAY	1.9	4.1	3.5		2.8	0	0		0	0	0.7									
STOP	0	5	5		0	0	0		5	0	0									

Ref No.	IC1021									IC1101				IC1151						
MODE	1	2	3	4	5	6	7	9		1	2	3		1	2	3	4	5		
PLAY	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-4	-0.1		2.5	0	3.4		0	0	9	0	11.4		
STOP	-0.1	-0.1	0	-0.1	-0.1	-0.1	-3.8	-0.1		2.5	0	3.3		0	0	9	0	10.7		
Ref No.	IC1195				IC3501															
MODE	1	2	3		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PLAY	5.1	0	3.3		10.9	2.3	2.5	1.7	2.6	1.7	0	2.3	0	0	2.3	2.3	1.6	1.6	2.3	2.3
STOP	5.1	0	3.3		4.9	2.3	2.5	1.7	2.6	1.7	0	2.3	2.3	0	2.3	2.3	1.6	1.6	1.6	2.3
Ref No.	IC3502							IC3802												
MODE	1	2	3	4	5	6		1	2	3	4	5	6							
PLAY	0	1.9	4.9	1.8	0	1.8		0	2.5	1.9	2.5	0	2.5							
STOP	0	1.9	4.9	2.2	0	1.8		0	2.5	5	2.5	0	2.5							
Ref No.	IC3811																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	4.9	0	0	2.2	4.9	5.3	0	1.5	2.2	4.9	0	0	0	0	0.5	4.9	2.7	2.7	0	3.5
STOP	5	0	0	2.2	5	6.3	0	1.5	2.2	5	0.4	0	0.5	0	0.5	4.9	2.8	2.8	0	3.6
Ref No.	IC3811																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32								
PLAY	3.4	0	3.4	0	0	0	1.5	0	1.4	0	0	0								
STOP	3.6	0	3.6	3.6	0	1.3	1.5	0	1.4	1.3	0	2.3								
Ref No.	IC4301																			
MODE	1	2	3	4	5	6	7	8												
PLAY	1.8	1.7	0	0	1.6	1.7	1.8	12.2												
STOP	1.8	1.6	1.7	-9.6	1.7	1.7	1.8	12.9												
Ref No.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0	0	0	0	1.9	3	0	3.3	1.4	0	0	0	0	7.3	-0	-9.6	-7.3	-9.5	-7.3	-7.3
STOP	0	0	0	0	1.7	3	3.3	3.3	0	0	0	0	3.3	0	-4.8	-2.5	-7.1	-7	-6.1	-4.7
Ref No.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	-9.5	-5	-9.5	-9.5	-7.1	-9.5	-9.5	-9.5	-9.9	-9.7	-9.6	-9.6	-9.6	-9.7	-9.6	-9.6	-9.7	-9.6	-7.6	0
STOP	-9.3	-9.3	0	-7.1	-2.5	-2.4	-2.5	-2.5	-9.5	-9.6	-9.6	-9.6	-9.5	-9.5	-9.5	-9.5	-9.5	-9.5	-7.3	-7.3
Ref No.	IC6001				Q1051					Q1115								Q3801		
MODE	41	42	43	44	1	2	3	4		1	2	3	4	5	6		B	C	E	
PLAY	-5.3	0	3.3	0	-0.1	5.1	4.1	-0.1		5	5	0	5.1	5	5		12.1	11.4	12	
STOP	-5.1	-7.3	3.3	0	-0.1	-0.1	4.1	5.1		5.1	5.1	0	5.1	5.1	0		12.9	12.2	12.8	
Ref No.	Q3821							Q3851				Q3852				Q4422				
MODE	1	2	3	4	5	6		B	C	E		B	C	E		B	C	E		
PLAY	4.9	4.9	4.9	0	0	0		0	0	-5.8		0	0	0		0	0	0		
STOP	5	5	5	0	0	0		0	0	0.7		0	0	0.7		0	0	0		
Ref No.	Q4423				Q4751				Q6085				QR1115				QR3501			
MODE	B	C	E		B	C	E		B	C	E		B	C	E		B	C	E	
PLAY	0	0	0		0	0	0		-6.1	-6.2	-5.5		0	0	3.2		0	0	3.3	
STOP	0	0	0		5.1	1.9	2.5		-6	-6.1	-5.3		0	0	3.2		0	0	3.3	
Ref No.	QR3502				QR3821				QR3822				QR3823				QR4302			
MODE	B	C	E		B	C	E		B	C	E		B	C	E		B	C	E	
PLAY	2.6	0	0		12	0	0		0	0	5		11.5	11.5	0		0.1	0	2.8	
STOP	2.6	0	0		12.7	0	0		0	0	5		12	12	0		2.5	0	0	
Ref No.	QR4306				QR6001				QR6002				QR6003				QR6004			
MODE	B	C	E		B	C	E		B	C	E		B	C	E		B	C	E	
PLAY	-5.8	0.1	0		0	0	3.2		9.8	9.8	3.3		3.3	3.3	0		3.3	3.3	0	
STOP	2.4	2.5	0		0	0	3.2		9.6	9.6	3.3		3.3	3.3	0		3.3	3.3	0	
Ref No.	QR6101																			
MODE	B	C	E																	
PLAY	0.1	0	3.2																	
STOP	0.1	0	3.2																	

IC8001
(DV4.1)

⇦ AUDIO MAIN SIGNAL

L OUT (144)

R OUT (146)

IC4301
(2) AMP (1)

IC4301
(6) AMP (7)

JK4401
MIX L OUT

JK4401
MIX R OUT

JK3871
(20) (18) (16) (14) (12) (10) (8) (6) (4) (2)
(21) (19) (17) (15) (13) (11) (9) (7) (5) (3) (1)

L OUT

R OUT

0.7Vp-p(0.5msec./div.)

Q4422
MUTE

QR4302
MUTE

Q4423
MUTE

Q3852
MUTE

Q3851
MUTE

ADOUT (151)

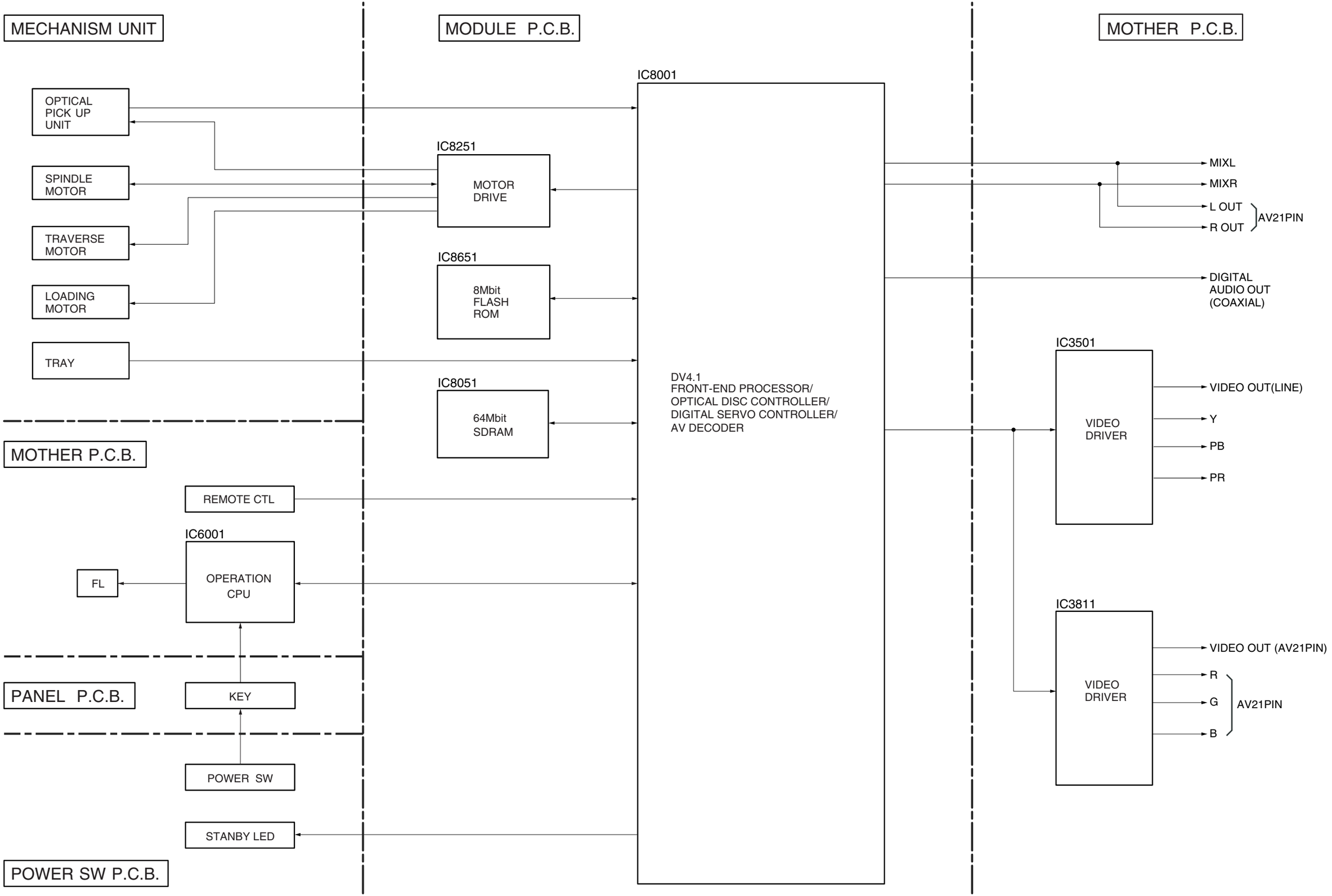
QR4306
SWITCHING

IECOUT (152)

Q4751
AMP

JK4401
DIGITAL
AUDIO OUT
(COAXIAL)

DVD-S1E/EB/EG
AUDIO BLOCK DIAGRAMA



DVD-S1E/EB/EG
OVERALL BLOCK DIAGRAM

PRIMARY CIRCUIT | SECONDARY CIRCUIT

AC SOCKET
P1001

VA1002

SURGE KILLER

F1001

L1001

LINE FILTER

D1011,C1011

RECTIFIER

T1021

POWER TRANSFORMER

IC6001
(OPERATION CPU)

10 NSW-12V
NSW+12V
→ VEE, VCC (AUDIO OP AMPS)

30 VEE

11 → NSW+2.7V

12 → Q1115 REG. → A+5V, D+5V

QR1115 SWITCH

IC1151
(REG.M+9V)
2 ON/OFF
1 IN OUT 3

15 → M+9V

16 → FLH-

QR6001,QR6002,QR6003,Q6085 SWITCH

17 → FLH+

43 VDD

13 VDD

IC1021
CONSTANT VOLTAGE CONTROL

IC1195 REG. → NSW+3.3V

Q1051 PHOTO COUPLER

IC1101 SHUNT REG.

N.POWER OFF Ⓛ

LED DRIVE
QR6101

D6101
STANBY

FL

GR1 42
GR4 39

SG16 29
SG4 17

SG3 16
SG2 15
SG1 14

POWER S6152
PLAY S6161
OPEN/CLOSE S6151

K2 11

IC8001
(DV4.1)

DOUT 6 → 53 P6
DIN 7 ← 54 P7
CLK 8 ← 55 P8
STB 9 ← 56 P9

191 DQM2

DVD-S1E/EB/EG
POWER SUPPLY BLOCK DIAGRAM

RF SIGNAL
MOTOR DRIVE SIGNAL
TRACKING ERROR SIGNAL
FOCUS ERROR SIGNAL

IC8001
(DV4.1)

IC8251
(MOTOR DRIVE)

OPTICAL PICKUP UNIT
PHOTO DETECTOR
T1
(CD)
A1 A2
A4 A3
T2
HEAD AMP
(DVD)
B1 B2
B4 B3
LASER DIODE(DVD)
LASER DIODE(CD)

VIN6(DVD/CD) 114 VIN6
VIN7(DVD/CD) 115 VIN7
VIN8(DVD/CD) 116 VIN8
VIN5(DVD/CD) 113 VIN5
VIN9(CD) 112 VIN9
VIN10(CD) 111 VIN10
DRV4(SW) 63 DRV4
LPC01 104 LPCO1
LPC1 103 LPC1
LPC02 106 LPCO2
RFINN 95 RFINN
RFINP 96 RFINP
CLOSE SW
S2601
TRAY CLOSE 64 DRV3
OPEN SW
S2602
TRAY OPEN 59 P12

DRV0 67 TRSDRV
PWM1 126 TRDRV
PWM0 127 FODRV
DRV1 66 SPDRV
AD1 122 AD1
DRV5 62 TRAY-DRY
EXADR19 30 SP MUTE
P2 47 TRVFT MUTE
P13 60 TRAY_MUT

6 VIN2
22 VIN4
23 VIN5
5 VIN1
27 OPOUT
7 VIN3
3 CH1 MUTE
4 CH2,4,5 MUTE
1 MUTE3 CH3 MUTE

BIAS1
BIAS2

LEVEL SHIFT

VO2+ 12
VO2- 11
TRAVERS MOTOR
OPIN+ 25
VO1+ 14
VO1- 13
SPINDLE MOTOR
OPIN- 26
VO3+ 10
VO3- 9
M2601
LOADING MOTOR
VO4+ 17
VO4- 18
VO5+ 15
VO5- 16

IC8251-15,16,17,18
4Vp-p(0.5msec./div.)

OPTICAL PICKUP UNIT
ACTUATOR
TRACKING COIL
FOCUS COIL
ACT T+
ACT T-
ACT F+
ACT F-

DVD-S1E/EB/EG
SERVO BLOCK DIAGRAM